PC REVIEW

JUNE 1994 • £3.95
$8.95
DM19,00
17,95 HFl

WIN
the fastest printer in the world!

Lords of Midnight AND Theme Park on disk
PLAYABLE

IF YOUR HIGH DENSITY COVER DISK IS MISSING, CONSULT YOUR NEWSAGENT

MAKE MOVIES ON YOUR PC

We tell you how to do it

TRIED & TESTED

The best sound card we've heard yet!

GAMES

EXCLUSIVE

- LucasArts talks to PC Review
- Over 25 games reviewed this month

IF YOUR HIGH DENSITY COVER DISK IS MISSING, CONSULT YOUR NEWSAGENT

9 770964 454010 06

YOUR COMPLETE GUIDE TO PC ENTERTAINMENT

SO REAL

©1991 WC-'94 / ISL. ©1992 WC '94 / ISL. ©1994 U.S. Gold LTD. All rights reserved. Official Licensee U.S. Gold Ltd., Units 2/3 Holford Way, Holford, Birmingham B6 7AX. Tel: 021 625 3366. U.S. Gold is a registered trademark of U.S. Gold Ltd. 'SEGA' 'MEGA DRIVE' 'MEGA-CD' 'MASTER SYSTEM' and 'GAME GEAR' are trademarks of SEGA Enterprises Ltd., ©1994 SEGA Enterprises Ltd. Nintendo® Super Nintendo Entertainment System™, GAME BOY™, and the Nintendo Product Seals are trademarks of Nintendo.

Screen shots are from various formats and are illustrative of gameplay and not the screen graphics which may vary considerably between formats.

U.S. GOLD®

IT HURTS

nothing matches the anguish...

...of a missed penalty in a SHOOT OUT that could take you to the World Cup final. That's the reality of World Cup USA '94 from U.S. Gold.

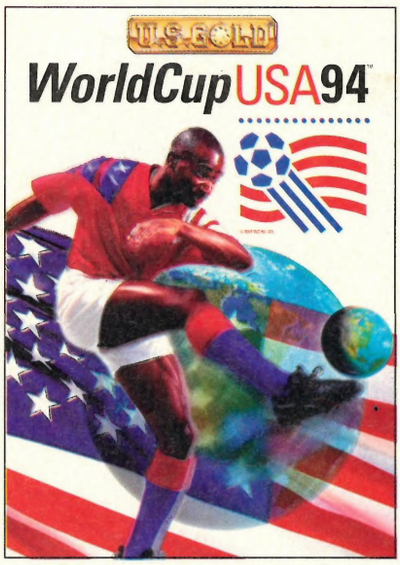
Serious game play and the only one serious enough to carry the official license.

You get *more* options, *more* CUSTOMISATION, *more* frames of animation and *more* playability than any game ever, plus a few unique SURPRISES guaranteed to keep your opponents guessing.

What we're talking about is a football game that gives you the ***feel, guts, smart thinking and downright inspired moves*** of real World Class Football.

So if you want to play real football, put your brain in gear and get U.S. Gold's World Cup USA '94.

- MEGA-CD
- MEGA DRIVE
- MASTER SYSTEM
- GAME GEAR
- SUPER NINTENDO
- GAME BOY
- AMIGA
- IBM PC
- CD-ROM



...this is a game for players.

It's out on *June 3rd* and it's the *only one worth waiting for*

WorldCupUSA94™

© 1991 WC'94 / ISL

ISHAR 2
11.49

SPACE LEGENDS
13.99

UFO
28.99

CANNON FODDER
23.49

LS LSARRY 2
11.49

ZOOL
10.99

PINBALL FANTASIES
23.49

ALONE IN THE DARK
17.49

EYE OF BEHOLDER
13.49

KNIGHTS OF SKY
13.49

CHAMP MGR '93/'94
12.99

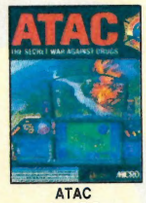
PREMIER MGR 2
14.99

BBC GARDNERS WORLD 3D
15.99

DL'S GOLF
13.99

DOOM
24.99

SPEEDBALL 2
8.99

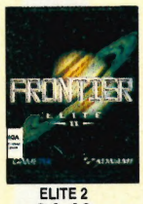


ATAC
11.99

S OF MONKEY ISL 1
13.49

SENSI SOCCER
16.99

LANDS OF LORE
17.99



ELITE 2
24.49

A-TRAIN
14.49

X-WING
30.49

INDIANA JONES
24.99

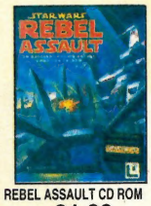
SIM CITY 2000
25.99

T.F.X.
28.49

LEMMINGS 2
16.99

SPEAR OF DESTINY
11.49

T.F.X. CD ROM
32.99



REBEL ASSAULT CD ROM
31.99

C = CGA (Colour Graphics Adaptor)
E = EGA (Enhanced Graphics Adaptor)
V = VGA (Video Graphics Array)
SV = Super VGA
256C = 256 colour
• = NEW Item

286/386 = Minimum machine requirement
MB = Minimum requirement of RAM
NDS = No Double Space
HD = High Density Disks
DUAL = Both 3.5" and 5.25" disks included in the pack

PC GAMES

688 ATTACK SUB E/V/286 ..... 11.49
A-TRAIN E/V/386 ..... 14.49
A-TRAIN CONSTRUCTION SET E/V/386/NDS 12.49
A.T.A.C. H/D V/286 ..... 11.99
A320 AIR-BUS V/256C/386 ..... 24.49
A320 AIRBUS (USA VERSION) V/256C/386 ..... 27.49
ACES OF THE PACIFIC H/D V/256C/SV/386 ..... 27.49
ACES OVER EUROPE H/D V/256C/SV/386 ..... 28.49
AIR BUCKS E/V/286 ..... 21.99
AIR FORCE COMMANDER V/286 ..... 21.49
ALIEN 3 V/286 ..... 21.49
ALIEN BREED H/D V/256C/286 ..... 20.49
ALONE IN THE DARK 2 V/386/2MB 29.99
ALONE IN THE DARK H/D V/256C/386 ..... 17.49
AMERICAN GLADIATORS E/V/286 ..... 17.49
ANOTHER WORLD E/V/386 ..... 11.99
ARCHER MACLEAN'S POOL V/256 ..... 13.99
AV8B HARRIER ASSAULT V/386/2MB 26.49
B17 FLYING FORTRESS H/D V/256C/286 ..... 20.99
BATMAN RETURNS V/286 ..... 19.49
BATTLE ISLE H/D E/V/286 ..... 16.99
BATTLE ISLE 2 V/386 • 25.99
BATTLE ISLE 93 V/286 ..... 18.49
BATTLEHAWKS 1942 C/E/V/286 ..... 11.49
BATTLES OF TIME (PERFECT GENERAL, BATTLE ISLE, MEGA LO MANIA, FIRST SAMURAI) V/286 • 24.49
BENEATH THE STEEL SKY V/386 ..... 25.99
BETRAYAL AT KRONDOR V/256C/386 ..... 28.49
BIRDS OF PREY VGA/286 ..... 11.99
BLADE OF DESTINY V/286 ..... 26.49
BLUES BROTHERS JUKEBOX ADV E/V/286 ..... 19.49
BODY BLOWS HD V/SV/286 ..... 20.49
BREACH 3 V/286/2MB 25.99
CAESAR EGA/VGA/286 ..... 21.49
CAESER DELUXE V/386 ..... 21.49
CANNON FODDER V/386 ..... 23.49
CAR & DRIVER V/SV/256C/286 ..... 25.99
CHAMPIONSHIP MANAGER 93/94 V/386 ..... 12.99
CHAMPIONSHIP MANAGER ITALIA 93/94 V/386 ..... 19.49
CHAMPIONSHIP MANAGER 93 UPDATE DISK 8.99
CHAMPIONSHIP MANAGER COLLECTION (93/94 + UPDATE DISK) V/386 ..... 19.99
CHESS MANIAC 5 BILLION AND ... V/256C/286 ..... 28.49
CHESSMASTER 3000 E/V/286 (DUAL) 25.49
CHESSMASTER 4000 TURBO V/486 ..... 23.49
CIVILISATION E/V/286 ..... 27.49
CORRUPTION (M/SCROLLS) E/286 ..... 4.49
COSMIC SPACEHEAD E/V/286 ..... 18.99
CRUISE FOR A CORPSE V/286 ..... 20.49
CURSE OF ENCHANTIA H/D V/256C/286 ..... 14.49
CYBERRACE V/386/4MB 26.49
CYBERSPACE V/286 ..... 25.49
DARKSUN-SHATTERED LANDS H/D V/256C/386/2MB 28.49
DAVID LEADBETTER 3D GOLF V/256C/386/2MB 13.99
DAY OF THE TENTICLE V/256C/286 ..... 28.49
DELTA V H/D V/256C/386/2MB 28.99
DETROIT V/386 ..... 23.49
DIGGERS V/386/2MB • 21.99
DIZZY COLLECTION V/386 • 18.99
DOGFIGHT V/286/1MB 13.99
DOOM V/386/4MB • 24.99
DRAGONSPHERE V/386/2MB 27.99
DREAMLANDS (TRANSARCTICA, STORM MASTER, ISHAR) V/256C/286 ..... 19.49
DREAMWEB V/286 ..... 25.99
DUNE 2 - BATTLE FOR ARRAKIS H/D V/286 ..... 23.99
DUNGEON HACK H/D V/256C/386/2MB 25.49
DUNGEON MASTER E/V/286 ..... 26.99
DYNA BLASTERS E/V/286 ..... 23.49
ELITE 2 (FRONTIER) H/D E/V/386/2MB/NDS 24.49
ELITE PLUS E/V/286 ..... 11.49
EVASIVE ACTION V/386/2MB 22.99
EYE OF THE BEHOLDER (SSI) E/V/286 ..... 13.49
EYE OF THE BEHOLDER 2 V/256C/286 ..... 25.49
EYE OF THE BEHOLDER 3 V/256C/386/2MB 26.49
F1 (DOMARK) V/386 ..... 21.49
F14 FLEET DEFENDER V/386/4MB 27.99
F15 STRIKE EAGLE 2 C/E/V/286 ..... 12.49
F15 STRIKE EAGLE 3 V/256C/386/2MB 28.49
F19 STEALTH FIGHTER C/E/V/286 ..... 12.99
F29 RETALIATOR E/V/286 ..... 11.99
FABLES & FIENDS - LEGEND OF KYRANDIA V/256C/286 ..... 24.49
FABLES & FIENDS PART 2 - HAND OF FATE V/256C/386 ..... 25.99
FANTASTIC DIZZY V/386 • 18.99
FANTASTIC WORLDS (REALMS, PIRATES, POPULOUS, WONDERLAND) E/V/286 ..... 26.49
FIELDS OF GLORY V/256C/386/2MB 28.49
FIRST SAMURAI H/D V/286 ..... 15.99
FLASHBACK V/256C/286 ..... 25.49
FLIGHT SIM TOOL KIT (WINDOWS V3) V/386 ..... 32.49
FLIGHT SIMULATOR 5 E/V/SV/386/1MB 30.99
FLIGHT SIMULATOR 5 DATA - SAN FRANCISCO 24.99
FLIGHT SIMULATOR 5 DATA - WASHINGTON 24.99
FORMULA 1 GRAND PRIX V/286/1MB 27.99
FREDDY PHARKAS FRONTIER PHARMACIST V/256C/SV/386 ..... 26.49
GENESIA VGA/286 ..... 22.99
GLOBAL DOMINATION V/286 ..... 23.49
GOAL V/286 ..... 20.99
GRAHAM GOOCH WORLD CLASS CRICKET V/386 ..... 22.49
GREAT NAVAL BATTLES V/386/2MB 25.99
GREAT NAVAL BATTLES 2 V/386/2MB • 25.99
GUNSHIP 2000 V/286 ..... 24.99
HARRIER JUMP JET V/286 ..... 18.49
HEROES OF THE 357TH V/386 • 12.49
HIRED GUNS V/286 ..... 25.99
HISTORYLINE 1914-18 V/286 ..... 25.99
IN EXTREMIS V/256C/386/2MB 24.99
INDIANA JONES FATE OF ATLANTIS ADVENTURE V/256C/386 ..... 24.99
INDY CAR RACING H/D V/386/2MB 27.99
INNOCENT V/286/1MB 28.49
INTERNATIONAL SPORTS CHALLENGE E/V/286 ..... 23.49
ISHAR 2 - LEGENDS OF CHAOS V/256C/286 ..... 11.49
JACK NICKLAUS GOLF C/E/286 ..... 5.49
JET STRIKE V/386 ..... 18.49
JINXTER (M/SCROLLS) E/286 ..... 4.49
JURASSIC PARK H/D V/386/2MB 23.49
KGB H/D V/256C/286 ..... 24.49
KICK OFF 2 C/E/V/286 ..... 13.49
KINGMAKER H/D E/V/286 ..... 24.99
KINGS QUEST 1 E/V/286 ..... 11.99
KINGS QUEST 2 E/V/386 • 10.99
KNIGHTS OF THE SKY C/E/V/286 ..... 13.49
KRUSTY'S SUPER FUN HOUSE V/286 ..... 20.99
LAMBORGHINI E/V/286 ..... 19.49
LANDS OF LORE V/256C/386/2MB 17.49
LEGEND (WORLD OF LEGEND) H/D E/V/286 ..... 12.99
LEISURE SUIT LARRY 1 V/286 ..... 11.99
LEISURE SUIT LARRY 2 V/286 ..... 11.49
LEISURE SUIT LARRY 6 V/386/2MB 26.99
LEMMINGS C/E/V/286 (DUAL) 14.49
LEMMINGS DATA DISK - OH NOI (DUAL) 4.99
LEMMINGS 2 H/D V/286 ..... 16.99
LINKS (GOLF) H/D V/386 ..... 12.99
LINKS 386 PRO HD V/256C/SV/386/2MB 30.49
LITIL DIVIL V/256C/386 ..... 25.49
LOST VIKINGS V/256C/386 ..... 23.49
LOTUS 3 - THE FINAL CHALLENGE H/D V/256C/286 ..... 21.49
LURE OF THE TEMPTRESS E/V/286 ..... 12.49
M & M - DARKSIDE OF XEEN V/286/2MB 28.99
MAGICLAND DIZZY CGA/EGA/VGA/286 ..... 9.49
MAN UTD PREMIER LEAGUE CHAMPIONS V/286 ..... 19.99
MANCHESTER UNITED C/E/V/286 ..... 10.49
MARIO ANDRETTI'S RACING CHALLENGE 10.99
MASTERS OF ORION V/386/2MB 28.49
MAXIMUM OVERKILL V/386/4MB 18.99
MICRO MACHINES V/386 ..... 18.99
MIG 29 C/E/V/286 ..... 11.49
MIGHT & MAGIC 4 - CLOUD OF XEEN V/286 ..... 31.49
MONOPOLY E/V/286 ..... 22.49
MORTAL KOMBAT V/386 ..... 20.99
NFL FOOTBALL V/386/2MB 25.99
NFL PRO LEAGUE FOOTBALL V/386/4MB • 25.49
NHL ICE HOCKEY '94 V/386/2MB 28.99
ON THE BALL V/386 ..... 18.99
PACIFIC AIR WAR - 1942 V/386/2MB • 28.99
PACIFIC STRIKE V/256C/486/4MB 32.99
PATRICIAN V/256C/386/4MB 19.49
PATRIOT V/386/4MB 28.49
PERFECT GENERAL 2 V/386 ..... 25.99
PGA TOUR GOLF C/E/V/286 ..... 12.49
PINBALL DREAMS H/D V/386 ..... 23.49
PINBALL FANTASIES H/D V/386 ..... 23.49
PIRATES GOLD V/256C/386 ..... 28.49
PITFIGHTER V/286 ..... 9.99
POLICE QUEST 1 E/V/386 • 13.49
POPULOUS & PROMISED LANDS C/E/V/286 ..... 11.49
POPULOUS & SIM CITY C/E/V/286 ..... 20.49
POPULOUS 2 V/286 ..... 26.49
PREHISTORIK 2 E/V/286 ..... 19.49
PREMIER MANAGER H/D V/286 ..... 12.99
PREMIER MANAGER 2 V/386 ..... 14.99
PRINCE OF PERSIA C/E/V/286 ..... 10.49
PRINCE OF PERSIA 2 V/386/2MB 26.49
PRIVATEER H/D V/256C/386/4MB/NDS 32.49
PRIVATEER MISSIONS - RIGHTEOUS FIRE • 15.49
PRIVATEER SPEECH ACCESSORY DISK 15.49
PRO TENNIS TOUR 2 E/V/286 ..... 14.49
QUARTERPOLE V/386 • 16.49
QUEST & GLORY C/E/VGA/286 (BLOODWYCH, MIDWINTER, CADAVER, BAT) 17.49
RAILROAD TYCOON E/V/286 ..... 11.49
RAILROAD TYCOON DELUXE V/SV/386 ..... 25.99
RALLY V/386 ..... 21.99
RAMPART E/V/386 • 10.99
REACH FOR THE SKIES V/286 ..... 24.49
RED BARON H/D V/256C/286 ..... 27.49
RISE OF THE ROBOTS V/386/2MB 26.99
ROBINSONS REQUIEM V/386 ..... 18.99
RORKE'S DRIFT E/V/286 ..... 8.99
RULES OF ENGAGEMENT 2 V/286/2MB 26.49
RYDER CUP V/386/2MB 21.49
SABRE TEAM V/386 • 18.99
SAM & MAX HIT THE ROAD V/386/2MB 27.49
SCRABBLE (US GOLD) E/V/286 ..... 20.49
SEAL TEAM V/386 ..... 17.99
SECRET OF MONKEY ISLAND H/D V/256C/286 ..... 13.49
SECRET OF MONKEY ISLAND 2 V/256C/286 ..... 25.49
SENSIBLE SOCCER V/256C/286 ..... 16.99
SETTLERS E/V/286 ..... 25.99
SEVEN CITIES OF GOLD V/386 ..... 23.49
SHADOW CASTER V/256C/386/4MB 28.99
SHADOW OF THE COMET V/256C/286 ..... 28.99
SILENT SERVICE 2 E/V/286 ..... 13.49
SILVERBALL H/D V/386 ..... 19.99
SIM CITY 2000 SV/386/4MB 25.99
SIM CITY DELUXE E/V/286 (SIM CITY, FUTURE CITIES & TERRAIN EDITOR) 19.99
SIM CITY/LEMMINGS C/E/V/286 ..... 19.99
SIM FARM V/286/4MB 23.49
SIM LIFE E/V/286 ..... 27.49
SIMON THE SORCERER H/D V/256C/386 ..... 24.49
SLEEPWALKER V/286 ..... 23.49
SOCCER KID V/386 ..... 19.49
SPACE CRUSADE E/V/286 ..... 18.49
SPACE HULK H/D V/386 ..... 28.49
SPACE LEGENDS (WING COMMANDER, MEGATRAVELLER, ELITE PLUS) H/D E/V/286 ..... 13.99
SPACE QUEST 1 E/V/386 • 13.49
SPACE QUEST 5 V/256C/286 ..... 25.49
SPEAR OF DESTINY (WOLFSTEIN 3D) V/256C/386 ..... 11.49
SPEEDBALL 2 V/286 ..... 8.99
SPORTS MASTERS (PGA GOLF, INDY 500, ADVANTAGE TENNIS, EUROPEAN CHAMPIONSHIP'S 1992) E/V/386 ..... 14.99
SSN SEAWOLF V/386/4MB • 28.99
STAR TREK 25TH ANNIVERSARY E/V/256C/286 ..... 23.49
STAR TREK 2 JUDGEMENT RITES V/256C/386 ..... 28.99
STAR WARS CHESS V/286 ..... 31.49
STARLORD V/386/2MB 28.99
STONE KEEP V/256C/386/2MB 29.49
STREETFIGHTER 2 V/256C/286/1MB 20.49
STRIKE COMMANDER V/256C/386/4MB 32.49
STRIKE COMMANDER DATA DISK 15.49
STRIKE COMMANDER SPEECH ACCESSORY 14.49
STRONGHOLD H/D V/386/2MB 23.99
STUNT ISLAND V/256C/386/2MB 30.49
SUB WARS V/386 ..... 28.99
SUPER CAULDRON E/V/286 ..... 14.49
SUPERFROG V/386 ..... 20.99
SURBURBAN COMMANDO V/386 ..... 17.99
SYNDICATE V/256C/386/4MB 27.99
SYNDICATE DATA DISK V/256C/386/4MB 14.99
SYSTEM SHOCK V/386/4MB • 30.99
T2 (COIN OP) V/386 ..... 20.99
TEAM SUZUKI E/V/286 ..... 10.49
TERMINATOR RAMPAGE V/386/4MB 25.99
TETRIS - 7 COLOURS E/V/386 • 16.99
TFX V/386/2MB 28.49
THE BLUE & THE GREY V/286 ..... 23.99
THE DREAM MASTER V/386 (SHUTTLE, LURE OF THE TEMPTRESS, DUNE) 14.99
THE LEGACY V/256C/386 ..... 27.99
TORNADO V/386/1MB 28.99
TRIVIAL PURSUIT DELUXE E/V/286 ..... 11.99
UFO - ENEMY UNKNOWN V/386/4MB • 28.49
ULTIMA 6 C/E/V/286 ..... 11.49
ULTIMA 7 V/386/2MB 26.49
ULTIMA 7 PART 2 - THE SERPENT ISLE V/256C/386/2MB 29.49
ULTIMA 8 - PAGAN V/386/4MB • 30.99
ULTIMA TRILOGY 2 (ULTIMA 4, 5, 6) C/E/V/256C/286 ..... 27.49
ULTIMA UNDERWORLD V/256C/386/2MB 26.49
ULTIMA UNDERWORLD 2 V/256C/386/2MB 25.49
UNIVERSE V/386/4MB • 22.49
UNNECESSARY ROUGHNESS V/386/4MB 25.99
WAR IN THE GULF V/386 E/V/286 ..... 23.49
WARLORDS 2 V/386/2MB 28.49
WEREWOLF KA-50 V/386/2MB 25.99
WHEN TWO WORLDS WAR V/386 ..... 23.99
WING COMMANDER 1 V/256 ..... 11.49
WING COMMANDER 2 + SPEECH ACCESSORY PACK V/386/2MB 26.49
WING COMMANDER 2 DATA DISKS 1+2 ..... 18.99
WING COMMANDER ACADEMY V/256C/386/2MB 23.99
WINTER CHALLENGE V/386 • 10.99
WINTER GOLD E/V/286 • 12.49
WINTER OLYMPICS V/386 ..... 24.99
WIZARDRY 6 - BANE OF THE COSMIC FORGE C/E/V/286 ..... 21.49
WWF WRESTLING EGA/VGA/286 ..... 9.49
X-WING DATA DISK (B-WING) H/D V/256C/386 ..... 16.49
X-WING DATA DISK (IMPERIAL PURSUIT) H/D V/256C/386 ..... 15.49
X-WING H/D V/256C/386 ..... 30.49
ZOOL V/286 ..... 10.99

PC EDUCATIONAL

10 OUT OF 10 - DINOSAURS (ALL AGES, DISCOVER ALL ABOUT DINOSAURS THE FUN WAY) 18.99
10 OUT OF 10 - EARLY ESSENTIALS (AGES 3-7, CREATES AN IDEAL FOUNDATION FOR CHILDREN TO BUILD ON) 18.99
10 OUT OF 10 - ENGLISH (AGES 6-16, COVERS MAJOR AREAS OF THE NATIONAL CURRICULUM) 18.99
10 OUT OF 10 - FRENCH (AGES 8-16, COVERS MAJOR AREAS OF NATIONAL CURRICULUM ATTAINMENT TARGETS 3&4) 18.99
10 OUT OF 10 - JUNIOR ESSENTIALS (AGES 5-11, BUILDING FOUNDATIONS FOR MANY AREAS OF THE NATIONAL CURRICULUM) 18.99
10 OUT OF 10 - MATHS NUMBERS (AGES 6 TO 16, COVERS MAJOR AREAS OF NATIONAL CURRICULUM) 18.99
ADI GCSE ENGLISH PACK (14-16 YEARS). DOUBLE AGE GROUP PACK. THE PERFECT GCSE REVISION TOOL 21.99
ADI GCSE MATHS PACK (14-16 YEARS). DOUBLE AGE GROUP PACK. THE PERFECT GCSE REVISION TOOL 21.99
FLYING FINGERS KEYBOARD TUTOR 24.99
FUN SCHOOL 4 (2-5 YRS) CGA/EGA/VGA 17.49
FUN SCHOOL 4 (5- YRS) CGA/EGA/VGA 17.49
FUN SCHOOL 4 (7+ YRS) CGA/EGA/VGA 17.49
MARIO IS MISSING VGA. EXCELLENT GEOGRAPHY EDUCATIONAL GAME FOR ALL AGE GROUPS. 26.99
MARIO TEACHES SUMS VGA 23.99
MARIO TEACHES WORDS VGA 23.99
MARIO'S PLAYSCHOOL VGA 23.99
MARIO'S TIME MACHINE VGA. EXCELLENT HISTORICAL EDUCATIONAL GAME FOR ALL AGE GROUPS 26.99
MAVIS BEACON 2 TYPING TUTOR CGA/EGA/VGA 24.99

PC APPLICATIONS

AUTOROUTE EXPRESS ROUTE FINDER. DETAILED MAP SYSTEM, ALLOWING YOU TO FIND YOUR WAY ANYWAY IN THE UK THE QUICKEST, CHEAPEST OR SHORTEST WAY. ...69.99

BBC GARDENERS WORLD 3D GARDEN DESIGNER 15.99

EASYKEYS MUSIC PROGRAM FOR WINDOWS. MUSIC MAKING UTILITY TURNS YOUR PC INTO A SYNTHESIZER. REQUIRES SOUNDBLASTER 2 OR ADLIB COMPATIBLE SOUND CARD 27.99

FUN SCHOOL SPECIAL - PAINT 'N CREATE EDUCATIONAL ART (5+ YRS) CGA/EGA 17.49

KEY CAD COMPLETE. LOW COST DESIGN PACKAGE. 37.99

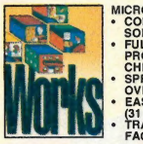
KEY FORMDESIGNER PLUS FOR WINDOWS. DESIGN AND PRINT YOUR OWN FORMS WITH THIS EASY TO USE BUT COMPREHENSIVE PACKAGE. VOTED BEST BUY BY WHICH COMPUTER (1993). 37.99

KEY WORDPRO PLUS. BUDGET WORD PROCESSOR WITH FULL PAGE PREVIEW, COMPLETE SPELL CHECKER AND 240,000 WORD THESAURUS. RECOMMENDED BY COMPUTER SHOPPER. ...37.99

MAVIS BEACON 2 TYPING TUTOR CGA/EGA/VGA 24.99

MICROSOFT MONEY ACCOUNTS PACKAGE. IDEAL FOR SMALL BUSINESS OR HOME USE. WINDOWS REQ'D. 37.49

MICROSOFT PUBLISHER 2.0 FOR WINDOWS. FULLY FEATURED DTP PACKAGE WITH EASY TO UNDERSTAND MENUS AND TOOLS, PUBLISHER MAKES IT EASY TO CREATE ANYTHING FROM A SIMPLE ONE PAGE FLYER TO A FULL COLOUR BROCHURE, NEWSLETTER OR MAGAZINE. 84.99



MICROSOFT WORKS V.3 DOS
- COMPLETE INTEGRATED SOFTWARE PACKAGE
- FULLY FEATURED WORD PROCESSOR WITH SPELL CHECKER & THESAURUS
- SPREADSHEET WITH OVER 75 FUNCTIONS
- EASY TO USE DATABASE (31 CHART TYPES)
- TRANSFER VIA MODEM FACILITY 111.99

MS-DOS 6.2 UPGRADE 49.99

RAVEI FOR WINDOWS. EXCELLENT VALUE MUSIC AND MIDI SEQUENCER SOFTWARE PACKAGE. 49.99

SIMPLY BUSINESS (CA) FOR WINDOWS. INTERGRATED APPLICATIONS SUITE FOR USE UNDER WINDOWS, COMPRISING AN ACCOUNTS PACKAGE, WORDPROCESSOR, SPREADSHEET, GRAPHICS PACKAGE, ORGANISOR. IDEAL FOR SMALL BUSINESS OR THE HOME OFFICE. 89.99

TURBOCAD (IMSI) FOR WINDOWS. A POWERFUL CAD PACKAGE SUITABLE FOR ANY TYPE OF DESIGN WORK, FROM BUILDING YOUR DREAM HOME TO LANDSCAPING THE GARDEN. 79.99

VIDEO CDS

FOR CD32 OR CDi - REQUIRES FMV ADAPTOR

ANDREW LLOYD WEBBER - THE PREMIERE COLLECTION 15.99
BEVERLY HILLS COP (RATED 15) (NEW) 15.99
BLACK RAIN (RATED 18) 15.99
BOB MARLEY - THE LEGEND (NEW) 15.99
BON JOVI - KEEP THE FAITH 15.99
BRYAN ADAMS - WAKING UP THE NEIGHBOURS 15.99
CARTOON CARNIVAL (RATED U) 18.99
FATAL ATTRACTION (RATED 18) 15.99
GHOST (RATED 15) 15.99
HUNT FOR RED OCTOBER (RATED 15) 15.99
INDECENT PROPOSAL (RATED 15) (NEW) 15.99
INDIANA JONES AND THE TEMPLE OF DOOM (RATED PG) (NEW) 15.99
INXS - LIVE BABY LIVE (NEW) 15.99
LIONEL RICHIE - BACK TO FRONT (NEW) 15.99
NAKED GUN 2 1/2 (RATED 15) 15.99
PATRIOT GAMES (RATED 15) (NEW) 15.99
RAIDERS OF THE LOST ARK (RATED PG) 15.99
STAR TREK 1 (RATED PG) (NEW) 15.99
STAR TREK VI (RATED PG) 15.99
STING - TEN SUMMONER'S TALES (NEW) 15.99
THE CURE 15.99
THE ESSENTIAL PAVAROTTI (NEW) 15.99
THE UNTOUCHABLES (RATED PG) 15.99
TOP GUN (RATED PG) 15.99
WAYNE'S WORLD (RATED 15) 15.99
WITNESS (RATED 15) (NEW) 15.99

CDi ALSO AVAILABLE PLEASE CALL

CD ROM TITLES

7TH GUEST VGA 256 COL (GRAPHIC HORROR MYSTERY) 30.99
AL-QADIM: GENIE'S CURSE 27.99
B17 FLYING FORTRESS & SILENT SERVICE 27.99
BATTLE ISLE 2 ..... 31.99
BENEATH THE STEEL SKY 31.99
BLOODNET 28.99
CASE OF THE CAUTIOUS CONDOR 34.99
CHALLENGE PACK (EPIC, F29, PUSH OVER, ROBOCOP 3, MIGHT & MAGIC 2, CONTRAPTIONS, D-GENERATION, PAPERBOY 2, CHESSMASTER 2100) 25.99
CHAMPIONSHIP MANAGER FOR WINDOWS 21.99
CHESS MASTER 3000 MULTIMEDIA 25.99
COMANCHE - MAXIMUM OVERKILL 30.99
CONSPIRACY 27.99
CYBERRACE 31.99
CYBERSPACE 26.99
DAEMONSGATE 25.99
DARK LEGIONS 29.99
DARKSUN-SHATTERED LANDS 28.99
DAY OF THE TENTICLE 29.99
DINOSOURS - THE MULTIMEDIA ENCYCLOPEDIA 39.99
DRAGONSPHERE 28.99
DUNE 33.99
DUNGEON HACK 25.99
EN-CORE COLLECTION (HEIMDALL, THUNDERHAWK, CURSE OF ENCHANTIA) (1 MEG) 21.99
F117A NIGHTHAWK F15 STRIKE EAGLE 2 ..... 27.99
F15 STRIKE EAGLE 3 ..... 27.99
FLIGHT SIM TOOLKIT 31.99
GABRIEL KNIGHT 28.99
GOBLINS 1 ..... 16.99
GOBLINS 2 ..... 16.99
GOLDEN 7 (LEISURE SUIT LARRY 5, HEART OF CHINA, RED BARON, KINGS QUEST 5, GREAT COURTS 2, SHANGHAI 2, SARGON 5) 33.99
GREAT NAVAL BATTLES 2 (GUADALCANAL) 25.99
HIT FOR SIX V1 (F19 STEALTH, TITUS THE FOX, GRAND PRIX MASTER, SATAN, CHICAGO 90, STARGOOSE) 19.99
HIT FOR SIX V4 (M1 TANK, F14 TOMCAT, BATTLETECH, SLOTS & CARDS, SORYILS, PENTYS) 19.99
HIT FOR SIX V5 (KNIGHTS OF THE SKY, BATTLETECH 2, GHOSTBUSTERS 2, MONDU'S FIGHT PALACE, TIME BANDIT, FLASHY CARS) 19.99
INCA 25.99
INDIANA JONES, THE FATE OF ATLANTIS 29.99
INTERPLAY TENTH ANNIVERSARY ANTHOLOGY (OUT OF THIS WORLD, STAR TREK - 25TH ANNIVERSARY, CASTLES, LORD OF THE RINGS, BATTLECHESS, DRAGON WARS, WASTELAND, BARD'S TALE, TASS TIMES, MINDSHADOW) 31.99
IRON HELIX 27.99
JFK - ASSASINATION (FULL MOTION VIDEO CLIPS AND ARCHIVAL INFORMATION SURROUNDING THE MOST FAMOUS ASSASINATION EVER) 32.99
JOURNEYMAN 25.99
JURASSIC PARK 27.99
KINGS QUEST 5 ..... 28.99
KINGS QUEST 6 ..... 28.99
KINGS TABLE 20.99
LANDS OF LORE 28.99
LAWNMOWER MAN (32 COLOUR VERSION) 34.99
LEISURE SUIT LARRY 6 ..... 28.99
LORDS OF MIDNIGHT 24.99
MAD DOG MCCREE 29.99
MAGNETIC SCROLLS COMPILATION (FISH, CORRUPTION AND GUILD OF THIEVES) 27.99
MARIO IS MISSING (DELUXE CD VERSION) 29.99
MEGA RACE 26.99
MICROCOSM 35.99
MICROPROSE COLLECTION (MIDWINTER, GUNSHIP, 3D POOL, MICROPROSE SOCCER, RICK DANGEROUS, SAVAGE) 16.99
MICROSOFT GOLF 34.99
NOMAD 20.99
OUT POST 31.99
PATRICIAN 23.99
POLICE QUEST 4 ..... 28.99
RAVENLOFT 31.99
REBEL ASSAULT V/386/2MB 31.99
RETURN TO ZORK 28.99
RISE OF THE ROBOTS 33.99
ROCK-N-ROLL DECADES (THE 50'S) 16.99
SAM & MAX HIT THE ROAD 28.99
SHADOWCASTER 31.99
SHERLOCK HOLMES MULTIMEDIA 35.99
SIM CITY ENHANCED 31.99
SOFTWARE JUKEBOX (GAMES COMPILATION) 29.49
SPACE HULK 31.99
STAR TREK - 25TH ANNIVERSARY 32.99
STRIKE COMMANDER 30.99
SUB WAR 2050 ..... 29.99
SYNDICATE 31.99
TELSTAR DOUBLE PACK - 7TH GUEST & DUNE 49.99
TFX 32.99
TORNADO AND OPERATION DESERT STORM 34.99
TRIPLE ACTION V5 (CRAZY CARS 3, BATTLETECH, GRAND PRIX MASTER) 12.99
TURNING POINTS 23.99
ULTIMA 1-6 ..... 36.99
UNDER A KILLING MOON 35.99
WHO SHOT JOHNNY ROCK? 32.99
WING COMMANDER AND ULTIMA 6 ..... 14.49
WING COMMANDER 2 DELUXE (WITH SECRET MISSIONS) 30.99
WING COMMANDER 2 WITH SPEECH AND ULTIMA UNDERWORLD VGA 256 COL 30.99
WINTER OLYMPICS 27.99
WOLFPACK 19.99
XANTH 25.99

SOUND CARDS

PC SOUND EXPERIENCE V2 SOUND BOARD
FOR PC WITH INBUILT ANALOGUE (15 PIN) JOYSTICK PORT, MIDI INTERFACE AND CD AUDIO INPUT SOCKETS. COMPLETE WITH UTILITY SOFTWARE. 1 YEAR WARRANTY. SPECIAL RESERVE'S BEST VALUE SOUND CARD 39.99

SOUND BLASTER V.2 SOUND BOARD
FOR PC WITH INBUILT ANALOGUE (15 PIN) JOYSTICK PORT, MIDI INTERFACE AND CD AUDIO INPUT SOCKETS. COMPLETE WITH SOFTWARE BUNDLE INCLUDING LEMMINGS, INDY 500, ORGAN AND TALKING PARROT. 1 YEAR WARRANTY.....59.99

QUICKSHOT PC STARTER PACK
WITH SOUND BLASTER 11 VOICE MUSIC/DIGITISED VOICE/MIDI SOUND BOARD WITH INBUILT ANALOGUE (15 PIN) JOYSTICK PORT, QS123 WARRIOR 5 JOYSTICK AND MATCHING IVORY COLOUR SPEAKERS ...69.99

GRAVIS ULTRASOUND 16 BIT SOUND CARD
FOR PC. COMPATIBLE WITH ADLIB AND SOUNDBLASTER. CD QUALITY SOUND, 3D HOLOGRAPHIC SOUND CAPABILITY, FULL MIDI SUPPORT, WINDOWS SUPPORT, JOYSTICK PORT, 4 SOUND UTILITIES. SUITS 386 OR ABOVE 135.99

PC HARD DRIVES

WESTERN DIGITAL VERY HIGH SPEED 3.5" HARD DRIVES, 1" HIGH, 12 MS ACCESS TIME GIVING A TRANSFER RATE OF APPROX 1.5 MB PER SECOND. WITH 3 YEAR WARRANTY. FITTING INSTRUCTIONS INCLUDED.

WESTERN DIGITAL 212 MB HARD DRIVE FOR PC (INTERNAL IDE, MODEL AC1210). 128K CACHE 195.99

WESTERN DIGITAL 250 MB HARD DRIVE FOR PC (INTERNAL IDE, MODEL AC2250). 32K CACHE 209.99

WESTERN DIGITAL 340 MB HARD DRIVE FOR PC INTERNAL IDE, MODEL AC2340). 128K CACHE 269.99

WESTERN DIGITAL 420 MB HARD DRIVE FOR PC (INTERNAL IDE, MODEL AC2420). 128K CACHE 339.99

CD ROM DRIVES

These multisession CD ROM drives are compatible with the Kodak Photo CDs, CD ROM games and will also play normal audio CDs. They are to MPC standards which mean they are compatible with all PC Soundcards. CDs can store up to 600 MB of data, making them the ideal media for games that have a large memory requirement, CD ROM games can offer fabulous graphics, sound and vast gameplay.

PANASONIC CR562B INTERNAL CD ROM DRIVE FOR PC
HIGH SPEED 320MSEC ACCESS, 300KB/SEC DOUBLE SPEED DATA TRANSFER, INTERFACE INCLUDED, CD ROM XA & MULTISESSION COMPATIBLE. 5.25" HALF HEIGHT DESIGN. AUTOLOADING CD TRAY. 169.99

SONY CDU33A033 INTERNAL CD ROM DRIVE FOR PC
HIGH SPEED 520MSEC ACCESS, 320KB/SEC DOUBLE SPEED DATA TRANSFER RATE, INTERFACE INCLUDED, CD ROM XA & MULTISESSION COMPATIBLE. 5.25" HALF HEIGHT DESIGN. MOTORISED TRAY LOADING. 159.99

ANTI-SURGE 4 WAY MULTIPLUG EXTENSION LEAD
FOR ANY ELECTRICAL DEVICE (EG. COMPUTER/CONSOLE/VIDEO). PROTECTS YOUR VALUABLE EQUIPMENT AGAINST DAMAGING ELECTRICAL SURGES. 26.99

ANTI-SURGE PLUG FOR ANY ELECTRICAL DEVICE
(EG. COMPUTER/CONSOLE/VIDEO). PROTECTS YOUR VALUABLE EQUIPMENT AGAINST DAMAGING ELECTRICAL SURGES. 12.99

CLEANING KIT FOR COMPUTERS (INCLUDES VACUUM) 17.99
DUST COVER FOR 80 COLUMN PRINTER (CLEAR PVC) 4.99
DUST COVER FOR MONITOR (CLEAR PVC) 5.99
MAINS CABLE - PC BASE UNIT TO MONITOR 7.99
MOUSE HOUSE (HANDY PLACE TO STORE YOUR MOUSE) 4.49
PRINTER LEAD (PARALLEL) 1.5 METRES FOR AMIGA, ST OR PC.....7.99

SWITCHER BOX FOR AMIGA, ST OR PC. CONNECTS TWO PRINTERS OR TWO PERIPHERALS TO PARALLEL PRINTER PORT. MANUAL SWITCHER. REQUIRES SWITCHER LEAD 18.99

SWITCHER LEAD (STRAIGHT THROUGH CABLE). CONNECTS AMIGA, ST OR PC TO SWITCHER BOX. 1.8 METRES PARALLEL (MALE TO MALE 25 WAY D CONNECTORS) 9.99

GAMES CARDS

QUICKSHOT 163 SMART GAMES CARD FOR PC 386/486 MODELS. 2 X 15 PIN JOYSTICK PORTS, AUTOMATIC CLOCK SPEED DETECTION AND SELECTION, HOT KEY PROGRAM FOR CLOCK SPEED TUNING, SOFTWARE SELECTABLE. 11.99

QUICKSHOT PC GAMES CARD + 113S JOYSTICK. TWIN PORT PC GAMES CARD WITH 113S PC ANALOGUE JOYSTICK (15 PIN) 16.99

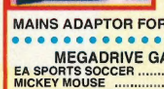
SPEAKERS

QUICKSHOT SOUNDMATE 4 STEREO SPEAKERS FOR ANY PC SOUND CARD. VOLUME AND BALANCE CONTROL, BASS AND TREBLE BOOST, 4W+4W MUSIC POWER, MAGNETICALLY SHIELDED, BATTERY OR MAINS ADAPTOR POWERED (NOT SUPPLIED).....16.99

CONSOLE SALE CONSOLE SALE CONSOLE SALE CONSOLE SALE
INCLUDING OVER 40 MEGADRIVE GAMES AT UNDER £20 EACH!

SEGA

MEGADRIVE 2 WITH ALADDIN AND 2 CONTROL PADS. 114.99
MEGADRIVE 2 WITH SONIC 2 AND 2 CONTROL PADS 109.99
MEGADRIVE 2 WITH SONIC 3 AND 2 CONTROL PADS 124.99
MEGADRIVE 1 WITH SONIC 2 AND 2 CONTROL PADS.. .....95.99
MEGADRIVE 1 WITH EA SPORTS (FIFA) SOCCER AND 2 CONTROL PADS 114.99



GAME GEAR WITH SONIC 2 PLUS CHAMPIONSHIP TENNIS, PENALTY KICK, COLUMNS AND PAN AMERICAN RALLY (NO MAINS ADAPTOR) 79.99
SAVE OVER £40 ON RRP. GENUINE UK VERSION.

MAINS ADAPTOR FOR GAME GEAR 8.99

MEGADRIVE GAMES		GAME GEAR GAMES	
EA SPORTS SOCCER	36.49	ALADDIN	26.99
MICKEY MOUSE	18.99	COLUMNS	9.99
MORTAL KOMBAT	32.99	DESERT STRIKE	24.99
SENNA SUPER MONACO	17.99	MICRO MACHINES	24.99
SONIC THE HEDGEHOG	13.99	NBA JAM	28.99
SONIC 2	19.99	SONIC THE HEDGEHOG	14.99
SUPER MONACO G PRIX	13.99	SONIC CHAOS	24.49
ROAD RASH 2	17.99	SENSIBLE SOCCER	22.99
X-MEN	18.99	SUPER MONACO G PRIX	12.99

HUGE SELECTION IN OUR FULL CATALOGUE

PC JOYSTICKS & MICE

CH FLIGHT STICK JOYSTICK FOR PC (ANALOGUE , 15 PIN) 34.99

HAWK JUNIOR JOYSTICK FOR PC. DIGITAL, AUTO CENTERING, TURBO FIRE 9.99

LOGIC 3 QUATRO JOYSTICK FOR PC (AUTOFIRE & SLOW MOTION, 15 PIN) 17.99

PHASE 9 PHANTOM 2 JOYPAD WITH AUTOFIRE AND SLOW MOTION. (DIGITAL, 15 PIN) 15.99

KONIX SPEEDKING FOR PC WITH AUTOFIRE (DIGITAL,15 PIN) 12.99

QUICKJOY SPEED RAIDER JOYSTICK FOR PC (AUTOFIRE, 15 PIN) 13.99

SAITEK MEGA-STICK 3 JOYSTICK (15 PIN) 8.99

FREEWHEEL STEERING WHEEL (ANALOGUE 15 PIN) USE IT INSTEAD OF A JOYSTICK. SUITS MOST DRIVING GAMES 29.99

QUICKSHOT 123 WARRIOR 5 JOYSTICK (ANALOGUE, 15 PIN) 11.99

SAITEK MEGAGRIP 3 JOYSTICK FOR PC (ANALOGUE , AUTOFIRE, 15 PIN) 12.99

GRAVIS JOYSTICK FOR PC (ANALOGUE, 15 PIN) 29.99

SUNCOM FX2000 JOYSTICK (AUTOFIRE, 15 PIN) SWITCHABLE FIRE BUTTONS 24.99

DATALUX MOUSE FOR PC (400 DPI, CLEAR DESIGN) 17.49

CITIZEN PRINTERS

CITIZEN SWIFT 90C COLOUR PRINTER
9 PIN, 80 COLUMN, 240CPS/54NLQ, 6NLQ FONTS, 2 YEAR WARRANTY, FREE PRINTER LEAD. A 9 PIN PRINTER WITH COLOUR FACILITY AND FULL PAPER HANDLING FUNCTIONS. 154.99

CITIZEN ABC PRINTER WITH COLOUR KIT
24 PIN, 80 COLUMN, 192CPS/64LQ, 5LQ/1 DRAFT FONT, 2 YEAR WARRANTY, FREE PRINTER LEAD. THE EASIEST TO USE PRINTER ON THE MARKET. COMPLETE WITH FREE CITIZEN EASYSTART SOFTWARE FOR BOTH AMIGA AND PC 164.99

CITIZEN SWIFT 200C PRINTER WITH COLOUR KIT
24 PIN, 80 COLUMN, 216PS/72LQ 6 LQ/1, DRAFT FONT, AUTO SET FACILITY, INPUT DATA BUFFER, AUTO PAPER LOADING, ENVELOPE PRINTING, 2 YEAR WARRANTY, FREE PRINTER LEAD 189.99

CITIZEN SWIFT 240C PRINTER WITH COLOUR KIT
24 PIN, 80 COLUMN, 240CPS/80LQ, 9LQ/1 DRAFT FONT, 2 YEAR WARRANTY, FREE PRINTER LEAD. ADVANCED VERSION OF 24E WITH AUTOSET FEATURE AND LCD CONTROL PANEL 229.99

DISKS & DISK BOXES

PACK OF 50 SONY DSDD 3.5" DISKS WITH LABELS 22.99
PACK OF 50 SONY HIGH DENSITY 3.5" DISKS WITH LABELS 29.99
PACK OF 10 SONY HIGH DENSITY 3.5" DISKS + CASE. WITH LABELS AND FREE PLASTIC FLIP TOP DISK BOX.....7.99
DISK BOX 3.5" (120) LOCKABLE, DIVIDERS 9.99
DISK BOX 3.5" PLASTIC FLIP TOP (10 CAPACITY) 2.49
DELUXE DISK BOX 3.5" (80), LOCKABLE, DIVIDERS ...9.99
MEDIA LIFE FILE DRAWER (100 CAPACITY). STACKABLE DESIGN 13.99
3.5" DISK HEAD CLEANER 4.49

4 TOP GAMES WORTH OVER £100 FREE

AMIGA A1200 2/0 DESKTOP DYNAMITE PACK
PLUS FOUR FREE GAMES
COMPUTER WITH MOUSE, BUILT-IN TV MODULATOR, 2MB RAM EXPANDABLE TO 10MB. WORKBENCH 3.0, 32 BIT MOTOROLA 68020 PROCESSOR RUNNING AT 14MHz. NEW AGA GRAPHICS CHIPSET. 1 YEAR IN-HOME SERVICE WARRANTY *WITH* WORDWORTH 2.0 AGA WORD PROCESSOR, DELUXE PAINT IV, PRINT MANAGER, OSCAR & DENNIS. *FREE ELITE 2, BATMAN RETURNS, LEMMINGS 2 & CIVILISATION AGA GAMES*

SPIRE 486DX2/66 4/250 PC COMPATIBLE VESA LOCAL BUS MINI TOWER SYSTEM.
- 66MHZ CLOCK SPEED, 256K CACHE
- 4MB RAM EXPANDABLE TO 32M
- 250MB IDE HARD DRIVE
- UK 102 KEY KEYBOARD WITH MOUSE
- 14" 0.28 DOT PITCH LOW RADIATION MONITOR COMPLYING TO MPRII STANDARDS. SUPPLIED WITH:
- MS DOS 6.2 OPERATING SYSTEM
- PC CHECK
- WINDOWS 3.1
- COMPLETE WORKS FOR WINDOWS (INTEGRATED W/PROCESSOR, DATABASE, SPEADSHEET & FORM DESIGNER).
- 12 MONTHS ON-SITE WARRANTY

TOP OF THE RANGE 486 SYSTEM AT A MID RANGE PRICE WITH VESA LOCAL BUS TECHNOLOGY FOR HIGH SPEED. ALSO PENTIUM UPGRADEABLE FOR FUTURE-PROOF COMPATIBILITY.
PLUS *FREE MEMBERSHIP*.....1469.99

PRINTER STAND FOR ANY PRINTER 7.99

MICROVITEC 1438 MULTI-SYNC MONITOR

FOR AMIGA A1200/A4000 OR PC
COMPLETE WITH STEREO SPEAKERS. 0.28 DOT PITCH RESOLUTION, 15 PIN RGB DIN PLUG. AMIGA ADAPTOR PLUG INCLUDED. SUITS ALL AMIGA AGA AND ALL PC SCREEN MODES TO SVGA.
1 YEAR WARRANTY 299.99

SUPER NINTENDO STREETFIGHTER TURBO PACK
WITH STREETFIGHTER TURBO GAME AND 1 CONTROL PAD 95.99

Special Reserve
The Discount Club

JOIN now from just £4.00

READ Special Reserve Magazine
48 Page colour club magazine sent bi-monthly to members only. The latest Reviews, Charts & Release Schedule

CHOOSE from our Huge Selection
Disks, CD's, Cartridges, Utilities, Education, Home Office, New Technology and Hardware. 16 Page colour catalogue.

BUY at Best Possible Prices
Just one purchase from Special Reserve will normally save you the cost of joining. Top discounts on all products.

SAVE with our Special Deals
Always hundreds of Special Reserve Offers. Top games at prices you won't believe and hardware at amazing reductions.

SAVE MORE with our XS Coupons
Money-off coupons worth over £180 a year off top games. You'll find them on the back page of each club magazine.

AND ENTER our FREE competitions

Six reasons why over 200,000 people have joined Special Reserve, the biggest games club in the World!

We only supply members but you can order as you join
Just send in the form below or phone. There's no obligation to buy.

0279 600204

OPEN to 8pm DAILY or by Fax on: 0279 726842
FREE 16-PAGE COLOUR CATALOGUE - JUST ASK

CLUB SHOPS
OPEN 10am TIL 8pm SEVEN DAYS A WEEK!
CHELMSFORD - 43 Broomfield Rd
just around the corner from the bus station
SAWBRIDGEWORTH - The Maltings
200 yards from the train station

AMIGA CD32 CD BASED CONSOLE
ALSO PLAYS AUDIO CD's VIA STEREO OUTPUT AND VIDEO CD VIA OPTIONAL FMV ADAPTOR. SPECTACULAR VOYAGE PACK WITH MICROCOSM AND CHAOS ENGINE PLUS ADDITIONAL WING COMMANDER, OSCAR, DIGGERS, DANGEROUS STREETS (WHILE STOCKS LAST).....229.99

ATARI JAGUAR 64-BIT CONSOLE
WITH JOYPAD AND CYBERMORPH GAME
FIRST SUPPLIES EXPECTED IN JUNE
FIRST COME FIRST SERVED
GENUINE UK VERSION 229.99

MEMBERSHIP FEES	6 MONTHS MEMBERSHIP	ONE YEAR MEMBERSHIP	TWO YEARS + FREE HARD BINDER
UK MEMBERS	4.00	7.00	14.00
OVERSEAS EC MEMBERS	6.00	9.00	18.00
OVERSEAS WORLD MEMBERS	7.00	11.00	22.00

WE ONLY SUPPLY MEMBERS BUT YOU CAN ORDER AS YOU JOIN.
All prices include VAT and carriage to UK mainland. See base of order form for overseas surcharges. We supply hardware orders to UK mainland addresses only.
(PLEASE PRINT IN BLOCK CAPITALS) PLOD PC REVIEW

Name _____
Address _____
_____
_____ Postcode _____
Phone _____ Machine _____
Enter membership number (if applicable) or NEW MEMBERSHIP FEE (ANNUAL UK 7.00)
item _____
item _____
item _____
item _____
ALL PRICES INCLUDE UK POSTAGE & VAT £
Cheque/P.O./Access/Mastercard/Switch/Visa (Switch Issue No_____)
Card expiry date_____ Signature_____

Cheques payable to: *SPECIAL RESERVE*
P.O. BOX 847, HARLOW, CM21 9PH

Overseas Orders Surcharge (EC or World)
Software orders please add £2.00 per item. Non-software items please add 25%. Hardware items supplied to UK mainland only.
Overseas orders must be paid by credit card.

Order/Confirmation/Receipt sent for every order.
We only supply official UK products. Official suppliers of all leading brands.
We sell games and peripherals all at amazing prices for Megadrive, Mega CD, Master System, Game Gear, Super NES, Gameboy, NES, Lynx, Amiga, Atari ST, PC, CD ROM, CDi, CD32 and Apple Mac.
Inevitably some games listed may not yet be available.
Please phone sales on 0279 600204 to check availability before ordering.
We reserve the right to change prices and offers without prior notification.
PRICES CORRECT AT TIME OF GOING TO PRESS. 21.4.94. E.&.O.E.
Inter-Mediates Ltd, 2 South Block, The Maltings, Sawbridgeworth, Herts. CM21 9PG.

PC REVIEW

Issue 32

PC Review is published by EMAP Images, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU
Tel (071) 972 6700
Fax (071) 972 6710
E-mail: pcreview@CIX.compulink.co.uk
Subscriptions and back issues: Tower Publishing (0858) 468888

EDITORIAL

Editor Christina Erskine
Deputy editor John Bennett
Staff writers Dean Evans, Cal Jones
Freelance production editor Jackie Ryan
Contributors Paul Boughton, Steve Boxer, Ciarán Brennan, Alan Clark, Steve Cooke, Paul Glancey, Gordon Houghton, Mike James, Sue James, Martin Klimes, Simon Shaw

DESIGN

Art editor Mark Edwards
Additional design Paul Anderson, Niki Creed, Aileen O'Donnell
Photography Terence Beddis
Illustration Tony Holland, Geoff Fowler
Cover image The Kobal Collection

ADVERTISING

Group advertisement manager Nigel Taylor
Advertisement manager Maria Clarke
Display sales executive Darren Toomer
Advertising production Tina Gynn, Robin Ryan

MANAGEMENT

Publishing director Mike Frey
Publisher's assistant Jo Briar
Marketing director Marcus Rich
Marketing manager Karen Williams
Marketing assistant Fiona Malloch
Managing director Terry Pratt

Page output and colour origination by Team Graphics, 105-109 Oxford Street, London W1.
Printed by Passmore (Basildon), 17-21 Hovefields Avenue, Burnt Mills Industrial Estate, Basildon, Essex.
Distributed by BBC Frontline.
Printed in the UK

© EMAP Images 1994. No part of this magazine may be reproduced, stored in a retrieval system or transmitted in any form, either electronic or mechanical, without the express written permission of the publishing director.

PC Review does its best to ensure that the information contained in this magazine is accurate, but cannot be held responsible for any errors which may occur.

SUBSCRIPTION RATES (PER 12 ISSUES)
United Kingdom and BFPO £47.40
Europe and Eire (airmail) £55.00
Rest of the World (airmail zone 1) £64.00
Rest of the World (airmail zone 2) £75.00

WIN
the world's fastest Windows printer!

CONTENTS

COVER STORY

20 Making movies with your PC
Now that full motion video has arrived on PC, it's possible to make your own movies. Mike James shows you how to get started.

FEATURES

32 Why is the PC such a pain in the butt?
Christina Erskine argues that the PC will never become the future of home entertainment if it continues to be so difficult to use.

40 Virtual Reality: part 2
What do the software developers think of Forte's VFX-1 headset? John Bennett finds out.

42 The PC Review profile
Randy Komisar, president of LucasArts, talks to Christina Erskine.

REGULARS

8 Cover disks
14 News
17 The Cooke Report
124 Technical help guide
~~132 Q&A~~
136 Letters
141 Back Issues
144 Subscribe to PC Review
146 Next Month

COVER DISKS PAGE 8

PRODUCT DIRECTORY

108 Soundcards
108 Hardware
114 Software
111 CD software
117 PC Review tried and tested
118 Shareware

CD-ROM GAMES

48 Myst *Electronic Arts*
61 Aegis *Time Warner*
61 Spaceship Warlock *Ubi Soft*
64 Lands of Lore *Virgin*
65 Hell Cab *Time Warner*
69 Dark Seed *Cyberdreams*
76 Quest & Fun *Ubi Soft*
76 Battles of Time *Ubi Soft*
77 Summer and Winter Challenge *Accolade*

QED

82 Ultima VIII
86 Gabriel Knight: part 2
88 Hand of Fate: part 2
90 Tips

PREVIEWS

94 Empire Soccer vs Fifa Soc
95 Lords of Midnight
96 Doom 2: hell on earth?
97 Sim Analysis
98 Coming soon
100 PC Review Recommended
101 Ciarán Brennan

COMPETITIONS

Win the Sound FX Classic 3000

Win a Panasonic CD-ROM drive

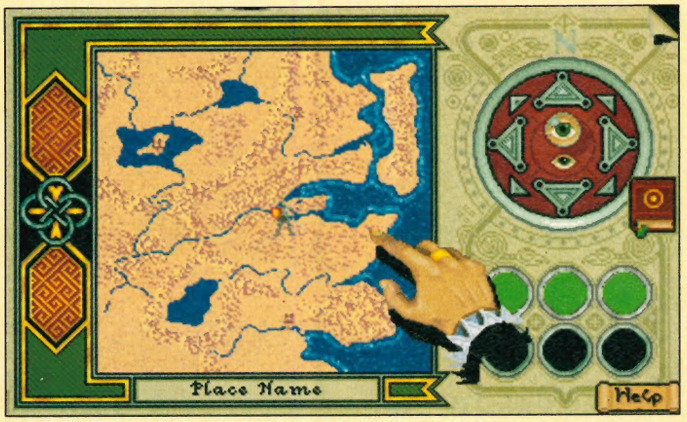
DISK GAMES

52 Reunion *Grandslam*
54 Links: Castle Pines *Access/US Gold*
54 Breakline *Mindscape*
57 Genesia *Mindscape*
58 Ravenloft *SSI/US Gold*
64 Corridor 7 *Gametek*
66 In Extremis *US Gold*
66 Red Hell *Cyberdreams*
68 Diggers *Millennium*
68 Spiritual Warfare *Alive Software*
69 Carriers at War II *SSG/Electronic Arts*
70 Sim City: Great Disasters *Maxis*
70 Eye of the Storm *Rebellion*
71 Raptor *Apogee/Transend*
72 Great Naval Battles II *SSI/US Gold*

Cover disks

This month we present two of this summer's most eagerly awaited games: Lords of Midnight and Theme Park, both in exclusive preview form. Plus, Personality Matrix, which is designed to give you an insight into your character and pinpoint the ideal career for you.

Lords of Midnight: The Citadel



3.5" disks only

This is a completely new tale in the Lords of Midnight series, the much-loved and never-forgotten classic game from ten years ago. Creator Mike Singleton has taken the original characters and the world of Midnight and designed a new instalment in the saga with a 1990s style interface. PC Review is proud to present this exclusive preview to The Citadel.

This demo introduces you to the main elements of the new game. You have access to samples of all the information screens: the bestiary, the calendar, and the cast list characters. You can also scan the whole of the map of the Blood March and the programmers have made a small cheat available in this preview: you can teleport anywhere you like in the lands, which means you can go exploring and enjoy the view!

How to start

Log on to the directory in which you installed The Citadel (the default is Lords), and type

CITADEL [Enter]

How to quit

Hit the Enter key on your numeric keypad to return to DOS.

Hardware required

386 PC (a 486 is recommended, but is not essential), VGA graphics, a mouse and 4Mb RAM.

You can decrease the landscape detail in order to speed up movement if you feel The Citadel is running slowly on your PC (see below for controls).

You will need around 560K of conventional RAM free and as much of the 4Mb free as you can possibly get. You should disable expanded memory and as many device drivers as possible in Config.sys, by adding REM to the beginning of the line in Config.sys. REM stands for 'remark' and it will temporarily disable the line rather than deleting it, so you won't have to reconstruct your Config.sys after playing The Citadel.

To do this, type EDIT CONFIG.SYS at the C:\ prompt. If you see the following line near the top of the file:

DEVICE=C:\DOS\EMM386.EXE

add the word REM at the start so that the line now reads:

REM DEVICE=C:\DOS\EMM386.EXE

In your Autoexec.bat file (from the edit screen, go to the File menu and choose Open, then type Autoexec.bat to bring up the file), you may well have SMARTDRV installed, with the line C:\DOS SMARTDRV, followed by a number to denote the amount of memory allocated to it. REM this line out as well just to be on the safe side. See page 12 for more details on running the disks if you are still stuck.

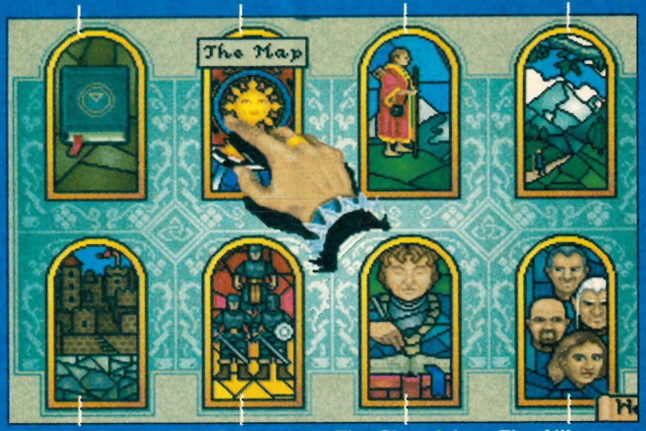
Controls

Key	Action
1	First person viewpoint
2-9	Various camera angles
T	Talk to person nearest you
Spacebar	Quit landscape movement
M	Minute key: this stops and starts the daylight clock
F9	Step time on one hour
F10	Step time on 10 days
Minus key on numeric keypad	Decrease detail
Plus key on numeric keypad	Increase detail
P	Teleport to new map position
Esc	Index
F1	Almanac and bestiary
F2	Map
F3	Heroes and villains
F4	Travellers' Guide
F5	'Here and now' (the game screen)
F6	Fellowships
F7	The Chronicle
F8	The Alliance
Enter on numeric keypad	Exit to DOS

How to play

When the game screen appears, click on the rearing horse to start the action. You can look all around you and move by sweeping the mouse in the direction you want. You should find that you open the demo standing close to someone who you can talk to, by pressing T. You should also see the dragon fly across the landscape and over the sea.

Problems with your cover disk? See page 12 for full instructions and helpline details



The Alamanac and Bestiary picture catalogue.

Access the map and you can explore the lands.

Heroes and Villains. The cast of characters.

Travellers' Guide: tourist view of the Blood March.

'Here and Now': the game playing screen.

The Fellowships: keep track of who's with who.

The Chronicle. Includes the Blood March calendar.

The Alliance. The characters on the side of the

You can quit out of the action by pressing the Spacebar. Click on the Index book and you can browse through the 'catalogues', above (note that these are unfinished in this demo).

If you want to explore the Blood March, click on the map icon to bring up the map. You can zoom in by clicking on the larger eye to the top right. To zoom out again, click on the smaller eye. To teleport to any part of the land that you wish, click on your chosen destination point and hit the letter P on the keyboard. Your character should now be shown on the map in that spot.

Exit to the index and click on the 'here and now' window. You will now find you start in your chosen destination. The lands are looking a little empty at the moment, since this demo is a sample of progress so far. The final version of The Citadel is due for release in June.

Theme Park

3.5" disks only

Bullfrog's latest game is a light-hearted affair after the intensity of Syndicate. In Theme Park, you are charged with building the best, most exciting state of the art amusement park that you can — and making it profitable. In this special preview, you have access to all the main features of the game, except the R&D screens which in the full game, will enable you to devise bigger and more thrilling rides for your visitors, including a roller coaster and an amusement arcade. So fasten your seat belt, and prepare to create a mini-park of your own with this demo.

How to start

Log on to the directory in which you installed Theme Park (the default is Tpdemo) and type

PARK [Enter]

How to quit

Move the mouse pointer to the top left of the screen and click the right button. You should access the menus. Scroll down the leftmost menu to the Quit to DOS option. Click on the left button to select this option.

Hardware required

386 PC, VGA graphics (VESA-compatible SVGA card needed for the hi-res screen), mouse, 4Mb memory.

If you have a Sound Blaster card, type SETSOUND at the C:\TPDEMO prompt and select Sound Blaster FM for music and sound effects. In the full version, all the sound cards shown will be available.

As with The Citadel above, Theme Park needs as much of your memory as possible to be freed up. See the memory instructions for The Citadel – they apply to Theme Park.

Controls

All movement is mouse controlled. The left button controls placement of objects on-screen and brings up information screens for the items available.

Click on the right button at the edges of the screen to scroll your view of the park; at the top of the screen for the options menu; and on the options bar at the foot of the screen for quick selection of items. And when following the tutorial, take care to differentiate between LMB (left mouse button) and RMB (right mouse button).

How to play

We suggest that you follow the on-screen tutorial at least for the first few moves to get your theme park started, or else you will have trouble getting this demo to do what you want.

First you need to lay a path. You need to click on the leftmost icon at the foot of the screen, the one which shows a single person. Then click with the left button and hold the button down on the flashing path to the left centre of the screen. Drag your

path to the flashing icon to the right of the screen and release.

Next, you will be prompted to add a bouncy castle. Click on the flashing rides icon with the right button to bring up the abridged menu. Select the bouncy castle, and click with the left button over the flashing castle on-screen.

This procedure of 'right button to select, left button to place,' follows throughout the tutorial.

Having placed a ride on-screen, you also need an entrance (which looks like a small tent, see picture above) and an exit (a set of steps) for it. These appear on-screen after you've placed the ride and also need to be positioned where the tutorial suggests.

So long as you position the items where the program suggests, you should progress smoothly. (We've put these provisos in because one PC Review tester ended up with more staff than visitors due to not following the tutorial!) If you have difficulty placing the members of staff on-screen, try clicking the mouse a few squares down from the flashing position.

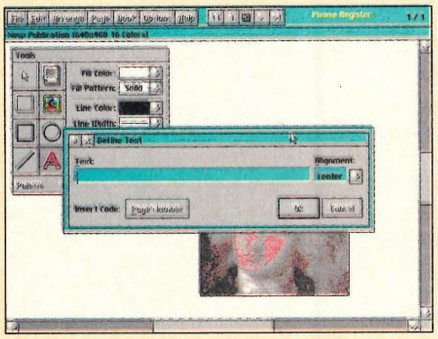
If your park does start looking messy or unergonomic at any point, you can restart by moving the pointer to the top of the screen and click with the right button to access the menus. Here you can also view the park in hi-res, if you have an SVGA card, which gives you a better idea of the scale of your effort.

After you've placed a bouncy castle, ice cream shop, staff, handyman and mechanic, you'll be able to branch out on your own, and add other features from the demo: the gift shop, ghost train, tree house, more paths, queueing lanes and staff.

As your park gets bigger, you will find that your visitors give you feedback on what they think of your theme park. PC Review's parks were all deemed to be pretty boring, but we're sure you can do better. The demo has a time limit, and the research option has been disabled for this preview, so your park will not be able to grow to an immense size. However, you should get to see the mechanic in action at the bouncy castle!

Problems with your cover disk? See page 12 for full instructions and helpline details

Neobook



5.25" inch disks only

Neobook is a menu-driven desktop publishing program for those of you who wish to try your hand at a little DTP. It's versatile and easy to use, providing you with access to your own page production system at home.

Neobook will also let you type in your own text – it uses the MS-DOS Edit program – or use ready-prepared ASCII files and you can also incorporate your own pictures, so long as they are saved in .PCX or .GIF format. These can then be arranged on the page any way you like, using Neobook's many font and illustrative effects.

How to start

Log on to the directory in which you installed Neobook (the default is Neobook) and type

NEOBOOK [Enter]

How to quit

Click on the File menu at the top left of the screen and select the Exit option.

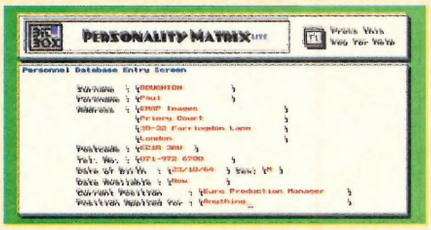
Hardware required

386 PC, VGA graphics, mouse.

Controls

All options are controlled with the mouse using the on-screen menus.

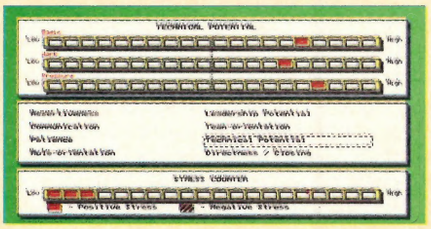
Personality and Job Profiler

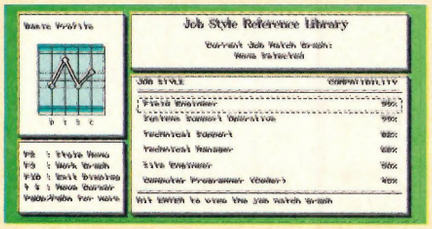


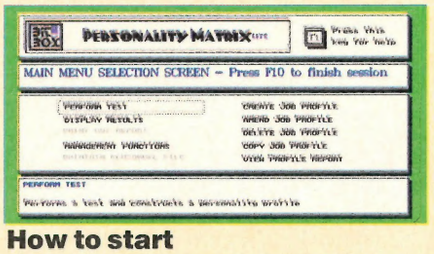
On 3.5" disks only

Fed up with your job? Stuck in a career rut? Are your talents and skills being overlooked?

Well, why not try our Personality Matrix and Job Profiler. It could open up a new way of thinking about your career choices. And if you are an employer you might find it useful to try out this handy piece of software on job applicants.







How to start

Log on to the directory in which you installed Personality Matrix (the default is Matrix) and type

PERMAT [Enter]

How to quit

From the menu screens, press F10. If you want to quit in the middle of a test, you'll have to reset the PC.

Hardware required

286 PC, EGA/VGA graphics.

How to use

Personality Matrix is a mix and match between your personality, attitudes to life, work and play and the different qualities needed for different jobs. You may think you have all the qualities to be a managing director but in reality you may be more suited to being a field engineer. This program can help you identify your strengths and weakness when it comes to a particular career.

You get a choice of two tests – full or quick. New users should complete the full-feature to start with. Don't forget to answer the questions as honestly as you can.

You will then be presented with a series a screens – 24 in all – each with four phrases, such as "I don't often lose my temper" or "I can act without worrying about the consequences." Of these you must select the one which most describes you at work and the one which is least applicable. The time you take in deciding your answers is also measured too.

These answers are then analysed. Now it's time to face the truth.

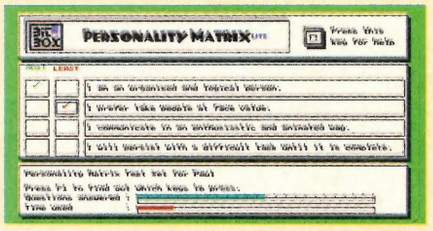
Press 1 and you'll see three Personality Profiles in graph form, covering Basic Profile, Work Profile and Pressure Profile. The graphs are then compared with job profiles in the program for close matches.

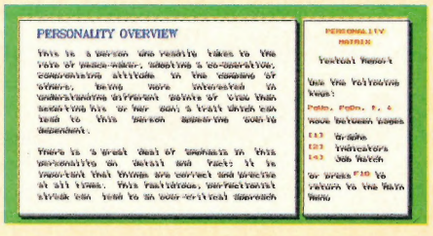
Now press 2 to view the skill indicators, which cover assertiveness, communication, patience rule-orientation, leadership potential, team-orientation, technical potential and directness. There is also an indication of how you are suffering from stress, both negative and positive.

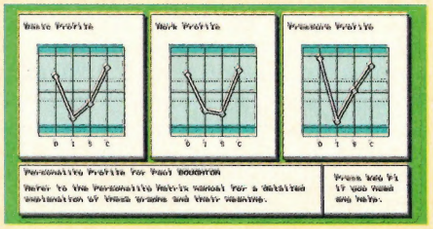
Now things become more interesting. Pressing 3 presents you with an in-depth personality overview, covering your strength, weaknesses, motivation, interpersonal skills, decision making, organisation and planning, handling pressure and stress analysis.

And for the crunch. Press 4 and your profile is matched to types of jobs. A score of below 70 per cent means you are not really suited to a particular job. The Job Match looks at a general job match and into four more precise categories, administrative, management and executive, sales and sales management and technical and scientific.

For employers planning to test job applicants there is an option to add or change new jobs and alter the 'job qualities' they may be looking for in a person.







PREPARE TO ~~MEET~~ *Beat* THY DOOM

CORRIDOR 7

£19.99
PC Compatibles

Technology licensed from ID SOFTWARE, creators of
WOLFENSTEIN™ 3D

GAMETEK

GAMETEK (UK) LIMITED, 5 Bath Road, Slough, Berks, SL1 3UA

Corridor 7 is the property of Capstone™

How to use the cover disks

PC Review's cover disks are tested at each stage of production, and rigorously checked for all known viruses. However, if you are new to the magazine, new to PCs, or simply having difficulties using the disks, read on for full instructions.

Lords of Midnight: The Citadel

1. Put PC Review cover disk A into your floppy disk drive and log on to the drive, ie, type
A:>
2. Type PCR [Enter] to bring up the installation menu.
3. Using the cursor keys, select The Citadel from the on-screen menu. Check the disk and PC requirements listed at the foot of the screen; you will get an error message if there is not enough space on your hard disk. Press Enter to confirm your selection.
4. The programs on the cover disk are compressed, to fit more information on a disk. The installer will decompress these files and save them to your hard disk. After choosing the program to install, you will be prompted with the name of the drive and directory that the installer intends to decompress the Citadel files to. There's no need to change this default drive and directory, unless, a) your hard drive is not called c:, or b) you already have a directory called Lords1.

If you do want to change this default, just backspace over the installer's suggestion and type in your own preferred destination, eg, D:\MIDNIGHT, instead of C:\LORDS.
5. The Citadel files will now be decompressed and copied to your hard disk. You will then see a screen explaining how to access the demo from your hard disk. There are also instructions for playing The Citadel on pages 8-9 of this issue. Press Enter to return to the installer menu.
6. Either press Esc to quit the installer, or use the cursor keys to select Personality Matrix (see below).

Theme Park

1. Put PC Review cover disk B into your floppy disk drive and log on to the drive, ie, type
A:>
2. Type PCR [Enter] to bring up the installation menu.
3. Theme Park should be automatically selected on the on-screen menu. Press Enter to confirm the selection.
4. As with The Citadel, above, the programs on the cover disk are compressed. After choosing the program to install, you will be prompted with the name of the drive and directory that the installer intends to decompress the Theme Park files to.

If you want to change this default, just backspace over the installer's suggestion and type in your own preferred destination, eg, D:\THEME, instead of C:\TPDEMO.
5. The Theme Park files will now be decompressed and copied to your hard disk. After they have done so, you will see a screen explaining how to access the demo from your hard disk. There are also instructions for playing Theme Park on pages 8-9 of this issue. Press Enter to return to the menu.
6. Press Esc to quit the installer.

Personality Matrix

1. Put PC Review cover disk A into your floppy disk drive and log on to the drive, ie, type
A:>
2. Type PCR [Enter] to bring up the installation menu.
3. Use the cursor keys to select Personality Matrix from the on-screen menu. Press Enter to confirm the selection.
4. You will be prompted with the name of the drive and directory that the installer intends to decompress the Personality Matrix files to. If you want to change this default, just backspace over the installer's suggestion and type in your own preferred destination, eg, D:\PERSONAL, instead of C:\MATRIX.
5. The Personality Matrix files will now be decompressed and copied to your hard disk. There are instructions for using the program on page 10 of this issue. Press Enter to return to the installer menu.
6. Press Esc to quit the installer.

Neobook (5.25" disks only)

1. Put PC Review cover disk A into your floppy disk drive and log on to the drive, ie, type
A:>
2. Type PCR [Enter] to bring up the installation menu.
3. Neobook should be automatically selected on the on-screen menu. Press Enter to confirm the selection.
4. You will now be prompted with the name of the drive and directory that the installer intends to decompress the Neobook Park files to. If you want to change this default, all you have to do is just backspace over the installer's suggestion and type in your own preferred destination.
5. The Neobook files will now be decompressed and copied to your hard disk. After they have done so, you will see a screen explaining how to access the demo from your hard disk. There are also instructions for using Neobook on page 10 of this issue. Press Enter to return to the installer menu.
6. Press Esc to quit the installer.
7. Now put PC Review cover disk B into your floppy disk drive and log on to it as above. Follow exactly the same procedure as detailed above to install the rest of the Neobook files. Note: you will get a warning message saying that the directory you have chosen to install the files to already exists. The files on disk B must be installed to the same directory as the files on disk A, so press Y to confirm that you wish the same directory to be used.

If all else fails ...

If you've tried everything, and you just can't get the wretched disks to work, try the PC Review disk helpline:

Disk helpline: (0451) 860770

The helpline operates between 3.00pm and 5.00pm weekdays.

Please note:

- PC Review's cover disks are rigorously checked at each stage of production for all known viruses and duplicated under strict quality control.
- However, cover disks are used at the reader's own risk. PC Review can accept no responsibility for damage to either data or hardware caused by use of our cover disks.
- We also make every effort to ensure that the contents of each disk are exactly as advertised. If, however, circumstances should dictate that we are unable to supply the stated program we will endeavour to supply alternative software. PC Review, its distributors and retailers, will not be held responsible for any unnotified change to the contents of the disks.

Faulty disk?

PC Review's cover disks are checked and validated, but if you have reason to believe that yours is faulty, pop the disk(s) in a jiffy bag with a self-addressed envelope and postage to the value of 28p (55p from overseas) and the form below (filled in), and send the package to the following address:

DiskXpress
Unit 3
Old Coalyard Farm
Northleach
Gloucestershire GL54 3EP

Please DO NOT send the disks back to PC Review — we don't hold stocks of spare disks.

Name.....
Address.....
.....
.....
.....

The disk on my copy of PC Review was damaged. Please send me a replacement — I enclose return postage to the value of 28p (55p if overseas) and the original disk.

HITCH A RIDE WITH SAM & MAX™... THEY DON'T BRAKE FOR ANYTHING!!!

Holy squimoley! Freelance Police Sam & Max are on the trail of Bruno and Bigfoot and his fiancee the giraffe-neck lady. Nothing unusual there. But when Sam is a contemplative canine and Max a trouble-seeking hyperkinetic rabbit, you know you're talking animal crazy.

Bounding across America the furry flatfoots will take you on an irreverent road trip adventure that will put hair on your back. Collide with tacky tourist traps and intimidate their bizarre denizens.

- Edgy animation!
- Twisted humour!
- Gratuitous antisocial behaviour!
- Mini-games to play when you're at work!
- Roadside attractions your parents refused to stop at!
- Full-screen graphics!
- Easy, pop-up verb and dialogue icons!

So tune up the car, water the cat and make a half-crazed beeline to your nearest retailer for *Sam & Max Hit the Road.*™ Don't forget to bring clean underwear!

LUCAS Arts®

AVAILABLE FOR THE IBM PC. COMING SOON FOR THE IBM CD ROM.

Sam & Max Hit the Road™ and ©1993 LucasArts Entertainment Company. All Rights Reserved. Used under Authorization. Sam & Max is a trademark of Steve Purcell. LucasArts is a trademark of LucasArts Entertainment Company. The LucasArts logo is a registered service mark of LucasArts Entertainment Company. IBM is a registered trademark of International Business Machines.

AVAILABLE FOR THE IBM PC AND COMPATIBLES. VISIT YOUR RETAILER OR CALL 1-800-STARWARS.

Marketed and Distributed by U.S. Gold Ltd., 1-4 Cuckoo Wharf, Lichfield Road, Birmingham B6 7SS. Tel: 021 606 1800.

News

Doom blasts opposition

Doom and its developer ID Software scooped three top awards at the European Computer Trade Show 1994 Awards.

The first-person perspective 3D action game won Overall Game of the Year and Computer Game of the Year. ID Software went on to receive the ECTS Game Innovation Award.

Best CD-ROM game went to the top-selling Rebel Assault (and creator LucasArts was developer of the year); Syndicate from Bullfrog/Electronic Arts was most original game; and Virgin Interactive Entertainment was named software publisher of the year.

In all 6,893 people, including visitors from Europe, the Far East and the United States, attended the show at London's Business Design Centre.

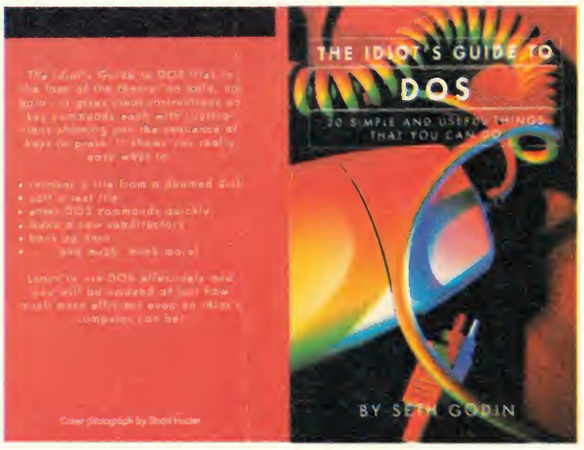
The twice-yearly show is an industry showpiece for the latest games and multimedia software, hardware technology and future developments.

More people, and more games on show at this years's European Computer Trade Show.

3DO launch delayed

The European launch of 3DO has been delayed until September. Plans for a spring launch were "over ambitious," 3DO president Trip Hawkins announced at the recent European Computer Trade Show in London. 3DO has already been launched in the United States and Japan.

3DO and Creative Labs are also at an early stage in discussions over a proposed internal 3DO card for the PC.



Pay attention, idiot!

A range of four new "idiot" guides, intended to make the complexities of some of the most popular PC software more accessible and understandable, has just been published.

The Idiot's Guide to Wordperfect, Windows, DOS and Lotus 1-2-3 each describe how to perform 20 simple and useful functions with step-by-step jargon-free instructions.

Priced at just £2.99, the MacMillan-published guides are written by Seth Godwin, a former brand manager with Spinnaker Software.

Godwin has also presented videos on how to use computer software and his experience includes teaching an Introduction to Computer Science course at Tufts University in the USA.

Media giant snaps up Software Toolworks for £312 million

Software Toolworks, the California-based software house, has been bought by the international media group Pearson for £312 milllion. The buy-out is the latest in a series of takeovers of games companies by giant media conglomerates keen to exploit the growing potential of interactive software entertainment. Sony now owns Liverpool-based Psygnosis, MCA has taken a stake in Interplay and Polygram and Disney is currently bidding to gain control of Virgin's games division.

Pearson's business interests include The Financial Times and more than 100 UK regional newspapers; book publishing houses Penguin, Longmans and Addison-Wesley; Thames Television and stakes in Yorkshire-Tyne Tees Television and BSkyB. The company also owns Madame Tussaud's.

Software Toolworks, which produces cartridge-based software as well as PC-based software on both floppy disk and CD-ROM, holds licences for the Star Wars characters, Hulk Hogan, Mavis Beacon, Marvel Comics' Captain America, Battleship and the Grolier Encyclopedia. It also holds the licence to use Nintendo's Super Mario characters for educational purposes. Formed in 1986, Software Toolworks employs about 355 people worldwide and has its headquarters in Novato, California. Its European operation, Mindscape, is based in West Sussex.

Pearson's chairman Lord Blackenham said the takeover was a "marvellous opportunity not only to buy an attractive stake in the market for family-entertainment software." Blackenham added: "As multimedia markets become a reality, we must grow the television and software capabilities that will be needed in the long-term to make the most of what we have."

Meanwhile, games industry veteran Nick Alexander, who has worked for Virgin Games and was until recently chief executive officer of Sega Europe, has been appointed chief executive of newly-created Pearson New Entertainment Group.

New joysticks

Top joystick manufacturer Quickshot is launching an aggressively priced new joystick specially designed for flight sims.

The Quickshot Super Warrior QS-201 (shown on the right) has four positive fire buttons to give you instant access to more weapons, and a built-in throttle control. It will be bundled with Quickshot calibration software for Microsoft Windows and will retail at £19.99.

SpectraVideo is also launching a joystick, the PC Optix (left). The PC Optix has four fire buttons and throttle control, and can be switched from analogue to digital input at the push of a button. Instead of potentiometers, the PC Optix uses more accurate optical sensors which SpectraVideo claims provide a better response to input signals as well as extending the life of the product. It will be launched in May, priced at £39.99.

EDITOR'S COMMENT

Is 'PC computing' down in your CV under Leisure Interests? I know this is a bit of a personal question, but for years now, I have been wary of introducing the subject on social occasions. Indeed, there was a time when answering the question, "And what do you do for a living?" was liable to send the questioner scurrying into the kitchen in search of a more interesting trainspotter to talk to. These days, of course, it's more likely that I'll be pressed for a public recitation of the level codes for Doom, but the technophobes are still out there.

The point I am trying to make is not that that I lead a thoroughly dismal social life, but that a huge gulf still exists between the cognoscenti, by whom I mean those who play computer games, particularly PC games, and know that they can provide a rewarding experience along the lines of reading a book, or watching a play or film (and this by default includes everyone reading this magazine), and everyone else. The trouble is that the number of people making up 'everyone else' is still far larger than those making up the cognoscenti, and that 'everyone else' is the mass market that hardware manufacturers and software publishers so dearly want to attract.

Somewhere along the line, it seems to have been agreed that the way into the hearts of the masses is through 'interactive movies'. Now I don't propose to get into a discussion about whether interactive movies can ever properly exist, or whether they are desirable in the first place — Steve Cooke does this better than I could in The Cooke Report — but I can supply more anecdotal evidence.

In my experience, people who see computer games as boring or childish completely fail to see the point of something like Lawnmower Man, or Rebel Assault. "Wow," they say, "That's amazing. Is that really the PC doing that?" But they make no attempt to play it. They're content to watch for some time, then go away and then ask why you can't just hire a video instead. But they do have an Achilles heel. You can hook them, reel them in and net them with Lemmings, or Tetris, or one of the simple golf games. Microsoft Golf is especially good because it runs under Windows, so it somehow looks more 'executive'.

Games designer Chris Crawford has always said the 'magic ingredient' of computer games is "interactivity", and I'm 100% with him. Duplicating the job that books, or films do isn't going to win over hordes of converts (certainly not as long as books and a trip to the cinema remain cheaper than a PC game). Offering something distinctively different, while still interesting and obviously not childish, is much more likely to do the job. Games like Doom, especially over a network, or SimCity 2000 will do far more to attract people to the cause than any number of "You'll really believe you're in a movie" style releases.

■ Christina Erskine

In Brief

● Kixx is launching a series of old games on CD for £14.99. Titles include Eye of the Beholder (above), Cruise for a Corpse, F-15 Strike Eagle III, F-19 Stealth Fighter, M1 Tank Platoon, Pirates!, Leisure Suit Larry 1, Police Quest 1, Space Quest 1 and Links: The Challenge of Golf. Each disks comes with a "storytelling screensaver" and more than 20 current demos.

● Windows for Workgroups 3.11 has become the world's best-selling retail operating system, according to makers Microsoft, with 300,000 copies alone sold worldwide in January this year. Microsoft Word 6.0 for Windows word-processor has also achieve sales of nearly 2million since it was launched in November last year.

● Fatty Bear's Birthday Surprise and Fatty Bear's Fun Pack are to be released on CD-ROM. Created by Washington-based Humongous Entertainment — previously responsible for Putt-Putt Joins the Parade and Putt-Putt Goes to the Moon — the games will be distributed in the United Kingdon by Electronic Arts.

● A Computer Games Development Centre is to be established at the Computer Graphics Expo at London Wembley Conference and Exhibition Centre, 8th-10th November. Exhibition director Gerry Murray said: "We have some of the best games production companies in the world and Computer Graphics Expo is a very natural place for these companies and individuals to find the very latest in graphics technology."

● PC manufacturer Elonex has signed a £1m three-year sponsorship deal with Wimbledon. Elonex previously sponsored Southend United.

● Computer retailers Silica is to launch a nationwide chain of shops selling home office and small business products. There will eventually be 20 shops, primarily in Debenhams department stores with a flagship store in London's Oxford Street.

Time Warner rises to grab Robots

Time Warner Interactive, the company recently formed from Atari Games, The Time Warner Interactive Group and Tengen, has signed up Mirage's impressive beat 'em up, Rise of the Robots. The game is now to be released in October, four months after the coin-op is launched in the arcades.

Tony Adams, managing director of Time Warner's European operation, said, "The whole team at Mirage has done a fantastic job with this title and they have every reason to be very proud indeed. This is not just the best beat 'em up for 1994 — it is a work of art. We are planning a no-holds-barred marketing campaign that will make this simultaneous launch on all platforms truly phenomenal."

Peter Jones, managing director of Mirage said, "We have lived, slept, eaten and breathed Rise of the Robots for the past two years and this is an incredibly exciting moment for us. Time Warner Interactive's recent move makes them the perfect partner and we are looking forward to a very successful, long-term relationship."

Mirage signs up with Time Warner Interactive for Rise of the Robots.

Rise of the Robots was previewed in PC Review in October and November 1993 and January 1994.

● Time Warner Interactive Group, the Tengen video games arm and Atari Games' coin-op business have integrated to operate under the name Time Warner Interactive. It will continue developing products across current formats and future interactive TV projects.

BBC goes live with computer show

Following the launch of The Net on BBC2 last month, the BBC is now launching a new computer entertainment radio programme, called The Big Byte, on its new 24-hour news and sports station Radio 5 Live.

The show, broadcast on Sundays at 12.15pm, is hosted by Gareth Jones (pictured left), perhaps better known as children's TV presenter Gaz Top.

It covers a wide range of computer entertainments including games, hardware and technical developments.

The Big Byte is scheduled to run for at least one year.

Teachers blame games

Computer games are to blame for tiredness and inattention of children in class, according to a survey by the Professional Association of Teachers.

Teachers also blamed computer and video games for causing children to be aggressive and act out fantasies.

However, some teachers commented that computer games did have some beneficial effects for children, specifically those children with learning difficulties.

Computer games were also recognised as being useful in improving hand-eye co-ordination for youngsters.

Dark screams and hunters

I Have No Mouth and I Must Scream, based on a short story of the same name by one of the world's top fantasy authors Harlan Ellison, will be released next year by Cyberdreams.

The adventure is set in a super computer where the player must live through the experiences of five different characters who try to defeat the computer which has destroyed humanity. Ellison, who has produced 48 books, has also written for television including Star Trek.

The creator of Advanced Dungeons and Dragons, Gary Gygax, is helping design a new series of role-playing games for Cyberdreams. The first is Hunters of Ralk, a first person perspective RPG set on the threatened planet of Ralk.

Meanwhile, development has begun on the sequel to Dark Seed and this psychological thriller will again feature the macabre artwork of artist H R Giger. Dark Seed II will should be released early next year. A Giger Windows screensaver product could also be in the offing next year.

All Cyberdreams' future relcases will be available on CD-ROM only.

Simply Simon

Adventure Soft has conjured up a sequel to Simon the Sorcerer later this year with many of the characters from the first game returning for a second outing. The ghostly Sordid, released from hell, plots his revenge against Simon by luring him back to his fantastic world. Expect plenty more comic antics from this classy Monkey Island style fantasy adventure. The price has yet to be finalised.

Activison signs games deal with Peter Lenkov

Activision has signed up Peter Lenkov, the script-writer best known for his work on Demolition Man, to write and develop a new series of interactive games. The project will include the creation of a "cyberthemed universe" and a selection of characters and places which can be transferred to other entertainment media such as film and television.

Robert A Kotick, Activision's chairman and chief executive officer, said, "Peter will bring Activision the talent and creative resources needed to create a game universe that can be leveraged into a theatrical release. In addition to being a very talented writer, Peter is also a game enthusiast. Peter strengthens Activision's commitment to combining the Hollywood community's top creative talent with the Interactive community's most skilled game developers."

THE COOKE REPORT

If you want to know — definitively — what the future holds for interactive entertainment, read on: Steve Cooke believes he has the answer

Life is full of great unanswered questions. What is Julia Roberts' telephone number? Where exactly lies the wreck of the Flor Del Mar and its £5,400 million worth of oriental gold? Which new hardware platform will succeed in the next few years?

Let's try and answer the last one. Current betting is on the Sony PSX. That's because it's technically superior to the Sega Saturn, 3DO and PC, and because the Nintendo Project Reality system is going to use — gasp — cartridges! And doesn't everyone know that CD is the great silver future of games?

But, as usual, it isn't as simple as all that. None of us has the answer.

First, remember when the Atari ST launched in the UK? That was in 1985. Yet it was 1987 before decent software started appearing for 16-bit machines. Product development cycles then were around nine months, so two years represented nearly three generations of software development. It also took about three software generations to get the best out of the Spectrum when it first appeared.

Software generations now run at about 18 months. On that basis, it could take four and a half years to get the best out of the Sony PSX and its relatives. Since they're not due to arrive here in force till the end of 1995, that could mean waiting around till the end of the millennium for really decent software. But let's be generous. Let's assume that developers start belting out some astounding product that really kicks 32-bit ass after only one and a half generations: that's two years. So by the end of 1997, we'll be seeing great stuff on these new machines.

Unfortunately, that will give these systems a shelf life of around 12 months. How come? Because hardware technology is now outstripping software technology at a frightening rate. Just producing the development systems for these new machines takes months (as Sony is now discovering), and all the time other hardware geniuses are popping up with new ways of defining state-of-the-art.

Informed opinion now firmly states that by the end of 1997, we will be hearing about games machines so awesomely powerful that the Sony PSX will seem more like a Spectrum than a world-beating example of 3D-potent games technology. Systems due for release before the year 2000 will be able to gulp in data and spit it out at the most fantastic rate, enabling us to — for example — process every pixel on a high-res screen with a 16 million colour palette and pixel-dependent rendering and texturing at over 50 frames a second.

Cor! Your average Sony will look as sick beside that as your average SNES currently looks besides the PSX. No-one's very interested in the SNES right now, because of all that fab 32-bit kit round the corner. Why should anyone in Christmas 1997 be so hot about PSX with a 64-bit monster waiting in the wings?

Of course Sony will do OK. It will sell machines, and so will Nintendo and Sega. The point, however, is that the console business is basically a strange blend of impulse purchase, fashion, and toy-market mechanics. Kids want a Sony one day. Mum buys it. Next day, kid wants something new. And so on. The console business has always been like that, and always will be.

So what about the PC? Well, just when Sony is launching its new machine, the worldwide installed base of multimedia PCs with CD-ROMs and 486 processors will be about 30 million and growing very fast. Those machines will, by the end of 1995, come with built-in real-time MPEG video (that's movies on the screen, taken direct from the CD), stereo sound, telephone links, and big, fast (unlike CDs) hard disks. With the millions of users already using PCs for business and pleasure, you can expect that figure to grow exponentially for the next ten years.

So now you know the future of the games market. What a bit of luck that you bet your money on the right horse. And when you and umpteen million other punters have got your fabulous all-singing, all-dancing PCs, are you going to buy one of the 32 bit consoles as well? Or are the lost dollars going to add up to ... well ... not far short of Julia Roberts' telephone number?

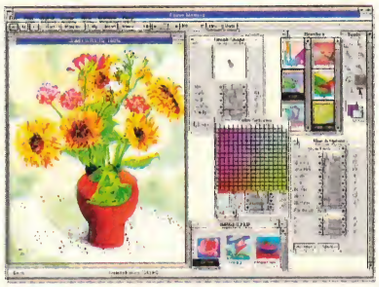
PC has designs on the future

A design for a child's portable computer to bridge the gap between school and homework has won student Sebastian de la Hamayde, 25, of Leicester's De Montfort University, a top art and design award.

The Pitney Bowes Attachment Award in this year's Royal Society of Arts Student Design Awards, gives Sebastian the opportunity to work at Pitney Bowes' design offices in America.

His computer design (pictured on the right) is now on display at the 1994 RSA Student Design Awards Exhibition at the Design Museum, Butlers Wharf, London, until 30th August.

Fauve Matisse faux pas



If you're scratching your head over the PC Review Gallery competition in the last issue (page 123), particularly over picture B, don't worry. It's not you, it's us. We have been exposed as a bunch of complete and utter philistines, since the correct artist for picture B does not appear in the given list.

Because of this, we have extended the closing date by a week, to May 31, and picture B will be discounted for the purposes of judging the competition.

So, if you've already entered, sit tight. If you haven't, you can still do so. You may do whatever you wish with the answer to picture B: leave it blank, insert the correct answer, whatever.

British Telecom signs on with ELSPA

British Telecom, which recently announced it is to trial interactive entertainment — games, films and home shopping service — to the home over the telephone, has joined the European Leisure Software Publishers' Association (ELSPA).

ELSPA general secretary Roger Bennett said: "Games no longer occupy a niche market. The market is broadening and deepening rapidly. BT is just the latest of a series of companies not normally associated with the video games market that has understood the convergence of technologies will place video games in the mainstream of home entertainment."

Editor's note: In fact British Telecom has been involved with the games market before through Telecomsoft and its then labels Firebird, Silverbird and Rainbird.

Laying down the law — by letter

If your complaints don't seem to get you anywhere, it could be that you are complaining properly, according to the Consumers' Association.

"Complaints are only as effective as the letters you write", says the association's Ashley Holmes, Head of Legal Affairs. "They depend on the legal basis for your complaint, following procedures and using the right jargon".

Now you can have a 'solicitor on software' with the 120 Letters That Get Results program, based on the best-selling book of the same name.

It provides standard letters you can adapt to suit a particular case and which use the most appropriate legal phrasing.

The letters cite relevant legislation, state clearly the desired outcome and prompt the user to set deadlines. And if your problem is not reasonably resolved, there are guidelines for taking your complain to court.

"Don't be fobbed off with feeble excuses which have no legal basis. You can avoid being taken for a ride", says Holmes.

120 Letters That Get Results is out now, price £34.99, from the Which? shop, Euston Road, London NW1.

Sign of the Times

One year ago...

Virgin's 7th Guest caused a stir as one of the few multimedia CD games to come on to the market. We predicted such games would "multiply over the next few years." The flourishing of CD has not taken years, just months. The follow-up to 7th Guest, 11th Hour is due out this summer.

Two years ago...

The boom in PCs specially packaged for games players was starting. Top rated games of the month were Ultima Underworld: The Stygian Abyss and Dune, based on Frank Herbert's classic sci-fi novel.

R C SIMULATIONS

THRUSTMASTER

The pinnacle of excellence from the USA

The modern range of sophisticated and complex flight simulations such as Falcon 3 and Aces Over Europe are increasingly difficult to master with "Garden Variety" shoot em' up joysticks. Space invaders are rarely equipped with sidewinders! THRUSTMASTER replica controllers increase your survivability and quadruple your pleasure.

FLIGHT CONTROL STICK

This replica Phantom joystick has double the usual number of Fire buttons and a "Coolie Hat" that lets you select views simply and quickly with all modern air combat sims. America's No.1 choice for computer jet jockeys. Available in 2 versions. This is the meanest looking joystick in the known universe.

Standard FCS £79.95
New Pro FCS £109.95

WEAPONS CONTROL SYSTEM

No more fumbling for chaff and flare with this fully programmable replica F15 type Throttle Control. WCS Mark II now works with all programs and even allows you to program FCS buttons and simply connects into your keyboard socket and game port.

FIRE UP THAT AFTERBURNER FOR JUST £109.95

PEDAL CONTROL SYSTEM

THRUSTMASTER RUDDER PEDALS ARE HERE. These pedals are made in the highest standards from aluminium and perform just like those in a F16 Falcon. Set a new course for only £109.95

MICROSOFT Flight Simulator 5 - All Add-ons in stock, Sublogic Light Flight Business Jet Simulation £24.95 inc!! Air Traffic Control for Windows £39.95 Parallel Game Port - THE JOYSTICK PORT FOR PORTABLES.

subLOGIC RC SIMULATIONS subLOGIC

Be informed - Get Our Newsletter

Unit 1B, Beehive Trading Estate, Crews Hole Road, St George, Bristol BS5 8AY. Tel: (0272) 550900 Fax: (0272) 411052.

In 1942, in the South Pacific
only the bravest and the best flyers
became carrier aircrew.

JOIN THEM

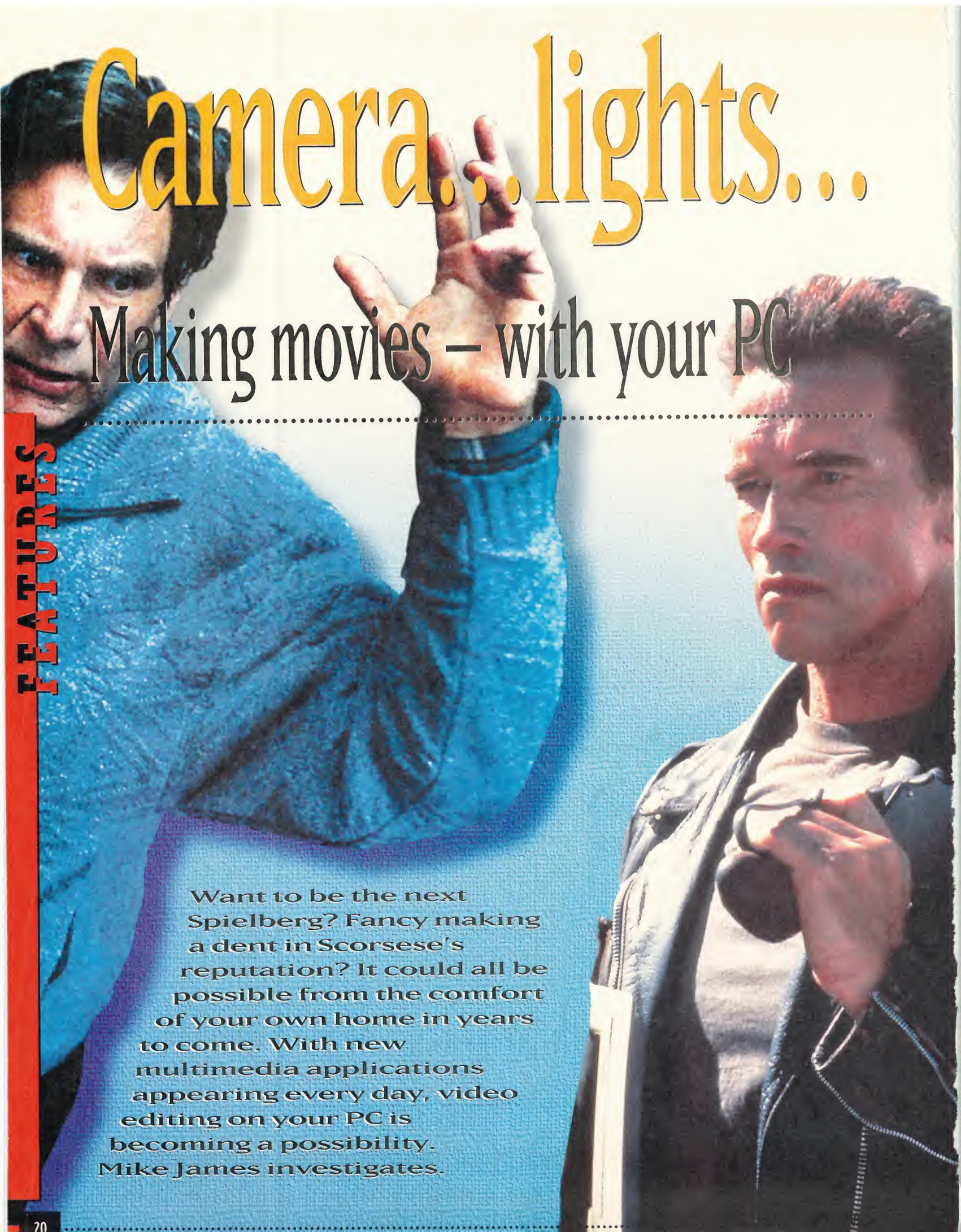
1942
THE PACIFIC AIR WAR

FOR IBM PC COMPATIBLES

MICROPROSE

Camera...lights...

Making movies – with your PC



Want to be the next Spielberg? Fancy making a dent in Scorsese's reputation? It could all be possible from the comfort of your own home in years to come. With new multimedia applications appearing every day, video editing on your PC is becoming a possibility. Mike James investigates.

action!

Not so long ago, the PC led a simple life. Its natural habitat was the corporate jungle, where it led an undemanding life of leisurely spreadsheeting and word processing, and generally didn't get any ideas above its station. Because of this, games companies viewed it as a sort of pre-ball Cinderella, and generally ignored it. Then along came multimedia, and suddenly, the PC was being feted like a rock star and dragged from corporate obscurity into people's homes. The realisation that it was capable of dealing with the demands of multimedia proved to be the Fairy Godmother that the games companies were waiting for.

Multimedia has become one of those words that means pretty much whatever you want it to mean, but there's no question about the bedrock on which multimedia is founded, its most important element: the ability to play back full-motion video on the PC. The games companies, of course, have had a field day, using sophisticated techniques involving live video footage to make the latest generation of games infinitely more appealing than anything that went before. And the possibilities offered by a tie-up between computer technology and full-motion video are rich and exciting. Video on Demand services have arrived in the US and are undergoing pilots over here, using powerful computers to provide the equivalent of a video shop at your fingertips. Banks are looking at building live video links into their PC-based ATMs, leading to a radical change in banking as we know it. Videophones are here, if barely noticeable yet.

But the most exciting possibility is the potential access to near-professional video editing capabilities that affordable PC products offer to a generation of would-be Spielbergs. But let's not get too previous. Remember, this is sophisticated technology, and the demands of full-motion video currently push the PC right to its limits.

Just plain embarrassing

So exactly what stage has the technology reached, and where will it have to go from here? If you have a camcorder then you already have the input device, but you also know how difficult it is to create a finished movie. At first you may be happy to watch the 'rough cut' complete with all the boring, out of focus and just plain embarrassing bits! The solution is to edit the tape — but how? The simplest approach is to re-record the tape using a second video recorder. If you try this you will quickly discover that it is so difficult and fiddly that it takes any pleasure out of using the camcorder in the first place. The main difficulty is in synchronising the starting and stopping of the two video recorders. It is all too easy to miss the first few moments of a clip or include a bit that you didn't want to.

Even if you can put up with the frustration you are also very limited in what you can achieve. At best you can take sections from the original and put them together in a different order. You can't use any fancy transition effects — fades and wipes, for example — to go from one clip to the other and you can't add titles or other graphics. You can buy special hardware to provide most of these facilities but it isn't cheap and is usually for the professional only.

DON'T BE FOOLED BY VIDEO OVERLAY!

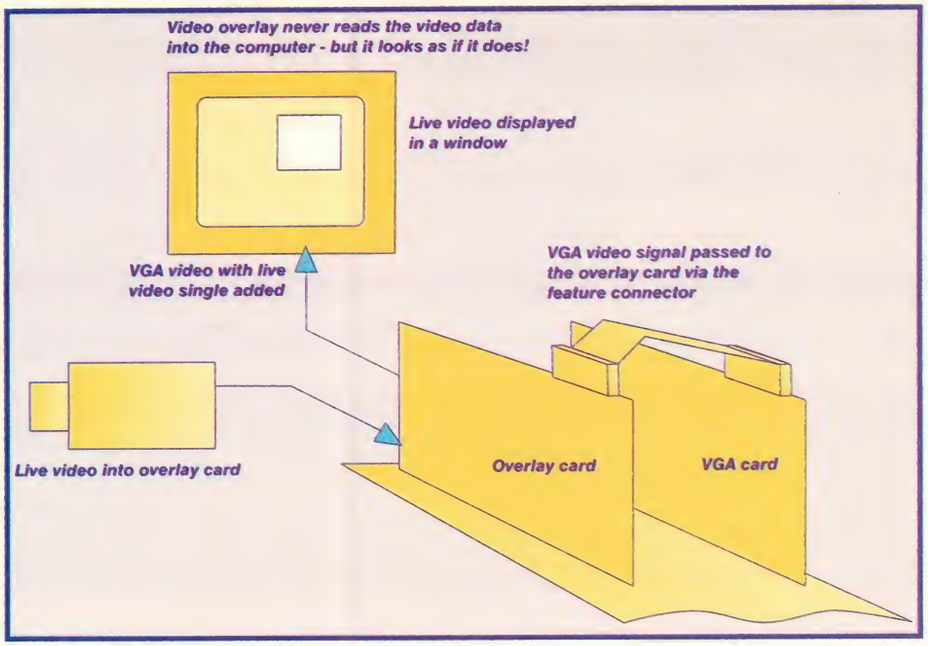
If you are puzzled by the statements that most PCs can only handle quarter screen video at slow and irregular frame rates — then you have probably been taken in by video overlay cards. A video overlay card is often indistinguishable from a full video input card, but the way that it works and what it does is very different. If you have seen full-screen TV pictures that are as smooth and even better than what you can see on a domestic TV it's not surprising that you think that video input is better than it actually is. What is going on here is a simple trick that allows a live video signal to be mixed with the signal that goes to your VGA monitor. The video signal is never digitised and never read in or stored on disk. All you are doing is using your high quality VGA monitor as a domestic TV set, which is why it sometimes looks better.

Video overlay normally works by using a colour key. Part of the VGA screen is set to a precise colour — usually purple. The overlay card intercepts the VGA signal and everywhere it detects the key colour it replaces it by the live video signal. Finally the combined video signal is fed on to the VGA monitor where you see it. It looks as if the live video image is actually being produced by your PC — but of course it isn't. If you try to take a screen dump you will soon discover the difference. Instead of the TV picture all you will see is a patch of purple!

Although video overlay can be confusing it is very useful. This is exactly how many TV in a window cards work. The card contains all of the electronics needed for a colour TV and simply splices the TV signal into the VGA signal as an overlay. You are given the impression that you are watching TV in a resizable window but in fact, from the PC's point of view, the window is just a patch of purple! If you have a genlock card then video overlay can be used to add titles and other special effects to live video. What you have is something like a software controlled video mixer.

Many video input cards make use of video overlay to show you the "live video" while they get on with the digitising and storage of each frame. This is a bit of a cheat because it doesn't really give you any idea of the quality of the input ... until you see it played back, that is!

The potential access to near-professional video editing capabilities that affordable PC products offer to a generation of would-be Spielbergs, means exciting possibilities are ahead.



Given how good the PC is at graphics it should be possible to use it to help with editing, titling and special effects of all sorts. Your first thought on how to do this is probably to get hold of an expansion card that enables you to read the video into your PC and store it on disk. Once it is stored on disk it could be edited using nothing but software and titled using your existing graphics packages.

This is the ideal but there is a problem. The amount of data needed to store even one second of high quality video is huge. Even if you could afford the disk drive needed to store the data it couldn't move it fast enough to create the impression of smooth movement.

To give you some idea of the problem a single frame of a video needs 1Mb of storage and there are 25 or 30 frames per second. This means that you need 30Mb of storage for every second of video and the disk drive needs to be able to move 30Mb every second. Even the fastest disk drives can only manage 2Mb/sec or so and CD-ROM drives generally work at 150K/sec.

The cold compress

Clearly we have no hope of storing video on disk and making use of it now or in the near future – unless we can come up with something clever.

The clever trick is to use data compression. The same sort of technique that allows you to pack more data on your disk drive can also be used to reduce the amount of disk space and the data rate needed for video. Typical compression ratios of 20:1 reduce the storage needed to around 1.5Mb per second — still a lot, but possible.

The need to use compression causes a problem in its own right. It takes a lot of time to perform the compression. It isn't possible to read in the video data using a video card and perform the compression at the same time. To achieve video input and compression at the same time the video card needs to have special compression hardware — usually called a 'codec' COmpress/DECompressor. A codec is a very expensive piece of hardware and lower cost video cards generally do without. Instead what happens is that you first read in the video without compressing it and then use software to compress and decompress it. Soft-

> Given how good the PC is at graphics it should be possible to help with editing, titling and special effects of all sorts. But there is a problem – the amount of data it needs ...

TRIED AND TESTED

Until recently, all reasonably priced video cards used software compression and as a result were very limited in quality and how long a video clip they could input. If you wanted hardware compression then you needed to find £2,000 or more. All this has suddenly changed because Intel has reduced the price of its Smart Video recorder to just less than £550. Now you really do have a choice of software or hardware compression — and it is an important one.

When choosing a video input card, after the software/hardware compression split, the other features that you need to look out for are what demands it makes on your PC. Some video cards claim that they work with 386SX machines and 4Mb of RAM. They may work but I doubt you would work with them for long! For video work you really need a 486DX2-66 and even this isn't fast enough. The more RAM the better and the same goes for disk storage.

As well as these general demands you also need to look out for specific requirements such as a VGA feature connector. A few years ago nearly all VGA cards had either an edge connector or a small plug which was to be used to intercept the video signal that they produced. Today many VGA/SVGA cards have abandoned this facility — because it was rarely used. However many video input cards need it so that they can perform video overlay and they simply will not work unless the VGA or SVGA card they are in harness with has a feature connector. Many also demand that you set the video resolution that you are using under Windows lower than the SVGA card or monitor can handle.

Intel Smart video

The important thing about the Intel Smart Video Recorder (SVR) card is that it has a hardware compression chip. This makes it possible to read in very long video clips using only tens of megabytes of disk space. The card itself has more processing power on it than a typical PC — Intel's own Codec and a pair of i750 processors. All you need to run it is a machine running Windows, 486SX-25 is the minimum suggested, 4Mb of RAM and 30Mb of hard disk space. The recommended hardware is a 486DX-33, 8Mb of RAM and 50Mb of hard disk space.

When you first see the on-screen display produced by the SVR you might be disappointed. The image seems jerky and jumpy – this is because it isn't overlaid video but fully digitised and passed through your machine's RAM and VGA card. The SVR doesn't need a VGA feature connector because it doesn't use video overlay. The real proof that this is a powerful input device comes when you try digitising a video clip. Where other cards run out of storage space after a few seconds or start dropping frames as they pause to save to disk the SVR just keeps going. A 60 second clip (160x120) needs only 9Mb of disk space compared to 50Mb using boards that don't have compression hardware. In testing the SVR didn't drop frames and saved the data directly to disk in compressed format.

As well as the hardware you get a copy of Video for Windows, MediaBlitz (a multimedia presentation package) and a CD-ROM of video clips.

Price £645.08

Contact: Intel (0793) 696204

Media Vision Pro MovieStudio

This video input card also uses hardware compression but it isn't quite as stuffed with extra processing power as the Intel Smart Video Recorder. For £179, though, it does a good job of keeping up with it! It will input at 25 frames per second at quarter and half screen resolutions. It is only when you demand the highest quality at half screen resolution does it start to miss

ware compression/decompression takes a lot of time and video cards that use it are not as good as cards that have hardware codecs. This said I have to warn you that even the best and most expensive video cards leave a lot to be desired if full screen high quality video is your target.

Even with hardware compression the size of the image and the number of frames per second still have to be limited to avoid overwhelming the hardware with data.

Professional video equipment works at a resolution in the region of 1,000 by 650 and domestic video recorders work at between 300x300 to 600x600. For smooth motion at least 25 frames per second are needed. Even the best video capture boards can only manage 15 frames per second at 320x240. This is generally reckoned to be equivalent to roughly half a standard TV image. If you watch the results of such a video board on an 768x1024 SVGA display the video clip looks like a very small window. If you expand the window to full screen the quality looks awful. And remember — this is what the best video boards give you. Boards without hardware compression can usually only manage a lower resolution or frame rate and are limited in how long a video clip they can record.

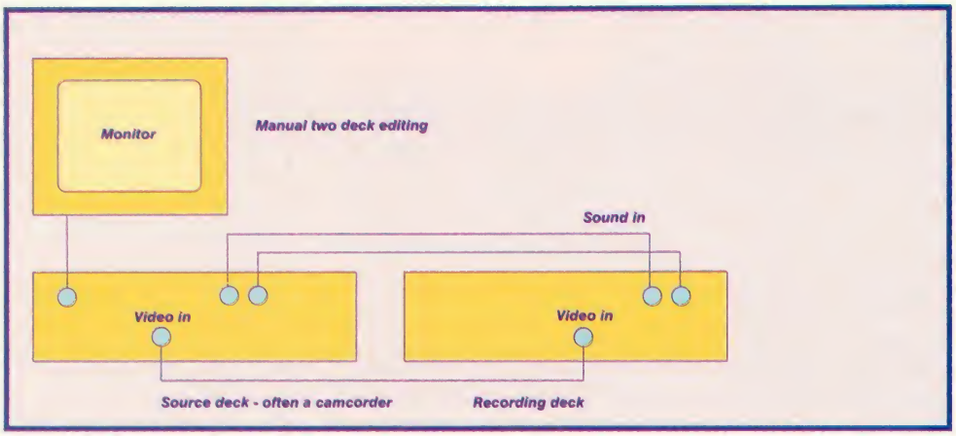
What happens when the hardware cannot cope with the data rate is that it misses frames. Missing frames show up as a jump during playback. Even if frames aren't missed during input they can still be missed when the clip is played back. It all depends on the speed of the disk drive used to store the video data.

What all this means is that, currently, video input cards cannot handle video at a sufficiently high quality to make video editing a reasonable proposition. Once you have the video clip inside the PC it is only really suitable for use where video in a window is acceptable.

If you are willing to accept working at half-screen resolution then it is possible to produce good videos. Editing packages such as Adobe Premiere give a tantalising glimpse of how the future might be. Using it you can put together video and sound clips by picking them up and dragging them to their correct location. You can use transition effects, special effects and include graphics from animation and general purpose graphics packages. When you have finished you can output the result as a computer playable video file or transfer the result back to video tape. This really is the way to work — if only the output resolution was high enough even for an amateur video maker.

Transferring the result of editing in Premiere back to video tape brings us to another problem. You cannot record the output of a VGA video board directly on tape: it simply isn't the same sort of signal. To produce a TV signal you need a video output board, sometimes called a 'genlock', to convert the signal. For example, Creative Labs' TV Coder and the Trust Video Encoder will allow you to record PC-generated video and even mix this with video from another video recorder. A genlock allows you to use PC graphics packages to add titles and some effects, but it doesn't help with editing.

A video input card also has a new role to play with a genlock card. It can read in single frames from a video tape to provide special effects which can then be re-recorded via the genlock. If the video input card also supports overlay, ie, where the live, non-digitised, video picture is shown on the VGA monitor, it can also act as a video mixer.



frames. It also doesn't quite manage to squeeze the data as much as the intel Smart Video Recorder. Again, it doesn't use video overlay to show live video so the quality of the on screen image may at first appear to be lower than that of alternative cards. Its hardware requirements are more or less the same — although it does seem to benefit more from a faster processor.

The software included is Video for Windows, Authorware Star and an MS-DOS playback utility. This card is almost as good as the intel Smart Video Recorder and half the price – what more is there to say!

Price £210.33
Contact: Datrontech
(0252) 316060

The Video Blaster FS200

The name Video Blaster suggests that this software based compression card is a natural companion to a Sound Blaster card — it might be but you have to be very careful about what you want to use it for. This is the very latest version of the Video Blaster — the FS or Full Screen 200, not to be confused with the original. The packaging suggests that this card will work with full screen motion video — it does but only as a video overlay. In real input mode it only manages 160x120 at 30 frames per second and 320x240 at 15 frames per second – which is hardly full screen. To make use of this card you need an MPC level 1 system — ie, 386SX — but I would recommend at least a 486SX-25. You also need a VGA graphics card with a feature connector and it needs to be set down to work at 800x600.

What this card is best at is video overlay and frame grabbing. If you couple it with the Creative TV coder (a genlock card) you can feed the VGA output to a standard TV or VCR. This allows you to use the VideoBlaster as a special effects titler and video mixer – you can use the overlay to superimpose video on graphics. Of course you will need two video recorders – one to feed the live video into the VideoBlaster and the other to record the overlaid VGA signal.

The software that you get with this card is Video for Windows, a copy of PhotoStyler and Aldus Gallery Effects and a range of Windows and DOS utilities.

Price: £TBA
Contact: Creative Technology
(0743) 248590

Video Spigot

This is Creative Lab's alternative video capture card. It was developed by SuperMac technology and it seems like only yesterday that it was the best low cost video input card available — now it has been overtaken by the Intel Smart Video Recorder and the Media Vision Pro MovieStudio. The hardware requirements are for at least a 386SX with 8Mb of RAM. I think that the recommended hardware or 64Mb of RAM and 200Mb of hard disk is more realistic! It doesn't use a VGA feature connector.

Video Spigot uses software compression and so the length of a video clip that you can input is limited. At quarter screen resolution it can handle 25 frames per second but at half screen this drops right down to below 10 frames per second.

The only software that you get with the Video Spigot is a copy of Video for Windows — enough to capture, playback and perform simple editing.

Price: £339.58
Contact: Creative technology
(0743) 248590

Vidiola

This is an interesting video input card which, while it doesn't have hardware compression, does offer hardware assistance with playback. The SuperZoom chip aims to solve the problem of those tiny windows without increasing the amount of data you need to store. It does this by zooming a quarter or half screen video to full screen in hardware. The SuperZoom chip expands the image without introducing the loss of quality and speed that software zooming involves. You can easily see the loss of quality when you turn the SuperZoom off.

Given that Vidiola can store 25 frames per second at quarter screen and 15 frames per second at half screen does this mean that we at last have the full screen video card we have been looking

for? The answer is no because the quality still isn't good enough and having no hardware compression soon limits the time of a video clip.

This card uses video overlay to show live video and so the VGA card that you use it with must have a feature connector. Apart from this a basic MPC level 1 system will do — but again the more processing power the better the performance. Vidioia comes with Adobe Premiere and the Compei Multimedia program.

Price: £410.08
Contact: Orchid (0256) 817722

ReelMagic

The ReelMagic card isn't a video input card, it's an MPEG output card. At the moment this probably isn't

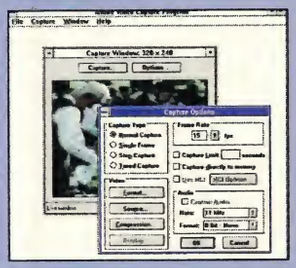
the sort of add-on card that's top of your list of wants but this might change. What it does is read MPEG compressed video movie clips from CD-ROM and display them at a full 25 or 30 frames per second at full screen size. There is a version that can be added to a machine with an existing CD-ROM and versions with CD-ROM interfaces. It also has enough audio hardware to produce 16-bit stereo sound. It's hardware requirements are any MPC level 1 machine that has a VGA/SVGA card with a feature connector.

At the moment there aren't many MPEG CD-ROMs to try this card out with and so a CD-ROM of sample video clips is included, as is a CD-ROM game. In the case of the review product this was Dragon's Lair , a cartoon-based game that doesn't really show the card off to its best. All I can tell is that the video was smooth and well up to feature film standards. As well as games and video clips ReelMagic can play VideoCD feature films.

Price: £304.33
Contact: Silica Shop (081) 309 1111

Adobe Premiere

This is the leading video editing software on the PC. it also inciudes a capture utiilty that works with any video input card supported by Video for Windows. Editing with Premiere is as easy as it can be. Two video tracks can be used and you can use a variety of transition effects from one track to the other. A



superimposition track aiiows two video clips to be mixed. You can cut, move and splice video clips as if you were working with film — only it's much easier. Audio tracks can be manipuiated in the same way and you can adjust the fader controls below each track to fade from one to another. It only takes a few minutes to master Premiere enough to begin putting a video together. A iittie longer and you will start to think up speciai effects and all manner of creative things. The only problem is that Premiere runs very siowiy if you don't give it enough RAM and a fast processor. You can run it on a 4Mb 486SX system but even a 16Mb 486DX2-66 will still keep you waiting!

Premiere gives you the equivalent of a very expensive editing suite. if only the video input cards were capable of working at near broadcast quality then this wouid be the near perfect solution.

Price: £327.13
Contact: Adobe (081) 547 1900

VideoDirector

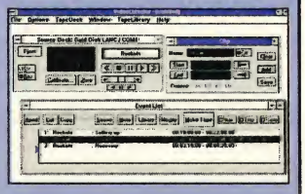
Untii video input cards are good enough then the best practicai solution to video editing is VideoDirector. This automates the two recorder editing described in the main articie. You are supplied with a speciai "smart cable" that connects to a LANC control jack on the Camcorder. The record deck is controiled via an infra red iink. You just point the end of the cable at the VCR and VideoDirector will start and stop it just as if you were using an infra red remote controiler.

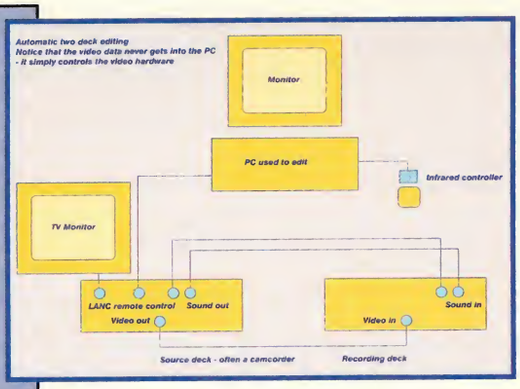
The video is never read into the PC. Instead the video output from the Camcorder is connected to the video input of the VCR via standard cables — which are not supplied with VideoDirector. You have to set up VideoDirector so that it knows how long the record and playback decks take to get started once they have been told to. After this the pulses that are stored on aii video tapes are used to teii where the playback tape is wound to. This is reasonably accurate but if the tape is moved quickiy it is possibie to miss some puises and iose track of where it is. A better method is to use a camcorder that has time coding — the time of each frame is written on the tape and can be used to locate exact positions.

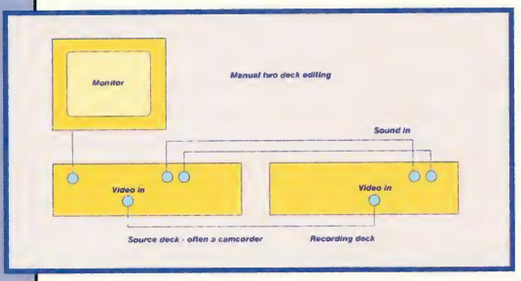
Your first job is to review the source tape and give suitable names to clips: VideoDirector remembers where they are on tape. You can then put together an event list which gives the desired order of the clips. Once you are happy with the way the clips are ordered iet VideoDirector make up a finai tape by re-recording them.

This is about as easy as manuai editing gets and VideoDirector pius your PC are easily the equal of a specialised editing machine costing £500 or more. However notice that there are no special effects and you don't see the video clips on the PC's screen unless you have a video overlay board as weii. if you are serious about your video then its biggest limitation is that it wiii oniy control two decks. Other editing software is avaiiabie that wiii controi up to five video sources inciuding titiers, etc.

Price: £175.08
Contact: Gold Disk (0753) 832383







Automatic for the people

So if video input cards are not yet the answer to video editing, what is the solution? The answer is that it can help you by automating the manual "two recorder" editing method. By using a special cable you can use it to control the video recorders — one being the source deck used to play the tape and the other a deck to record it. The source deck is often just the camcorder used to make the video in the first place. As long as the source deck has the right sort of control connection — LANC, Control L or Remote — then the PC can start, stop and position the tape accurately so that an edited version can be re-recorded.

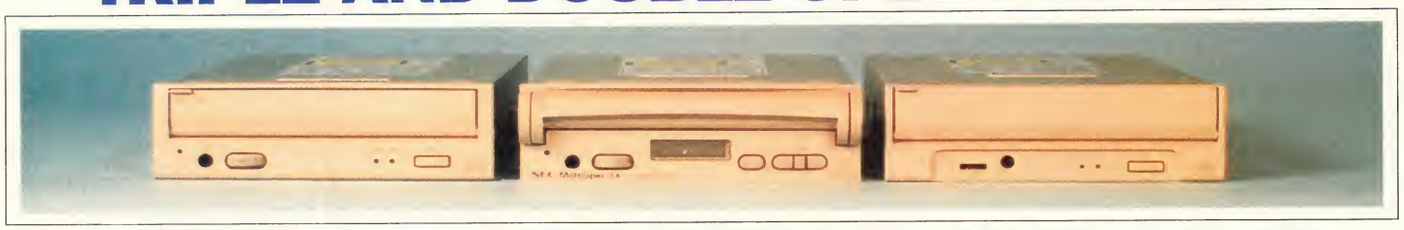
This is essentially an automated version of the manual editing described earlier. Software such as Gold Disk's VideoDirector allows you to make a list of video clips and assemble an event list which indicates the order in which they are to be put

CD LEADERS

CD ROM DRIVES

NEC™ PRICE BLASTERS!

TRIPLE AND DOUBLE SPEED OPTIONS



NEC TRIPLE SPEED £279
195ms scsi 3x CDR 510
With interface **£299** • With 16 bit I/F **£339**

NEC TRIPLE SPEED £315
195ms scsi 3xi CDR 500
With interface **£335** • With 16 bit I/F **£375**

NEC DOUBLE SPEED £136
320ms scsi CDR-210
With interface **£155** • With 16 bit I/F **£195**

CD-ROM KITS WITH SOUNDBLASTER 16

NEC TRIPLE SPEED £479
• NEC CD-ROM 510 • SOUNDBLASTER 16 SCSI–2
• SOUNDBLASTER SOFTWARE • FREE HEADPHONES
• FREE SPEAKERS • FREE MICROPHONE
• REBEL ASSAULT OR 7th GUEST • FOR CDR 500 ADD £36

NEC DOUBLE SPEED £329
• NEC CD ROM 210 • SOUNDBLASTER 16 SCSI–2
• SOUNDBLASTER SOFTWARE • FREE HEADPHONES
• FREE SPEAKERS • FREE MICROPHONE
• REBEL ASSAULT OF 7th GUEST

CD ROM KITS WITH PRO-SONIC (JAZZ) 16 SOUNDCARD

NEC TRIPLE SPEED £399
• CD ROM 510 • PRO SONIC 16 (JAZZ) • CABLES
• FREE SPEAKERS • FREE HEADPHONES
• FREE MICROPHONES • FOR CDR500 ADD £36

NEC DOUBLE SPEED £239
• CD-ROM 210 • PRO-SONIC16 (JAZZ) • CABLES
• FREE SPEAKERS • FREE MICROPHONE
• FREE HEADPHONES

PANASONIC CD ROM OPTIONS

PANASONIC 563B
DOUBLE SPEED 320ms Digital Output
• BARE DRIVE £120 • WITH INTERFACE £139
• INTERFACE £20

PANASONIC 563B £259
DOUBLE SPEED
• PANASONIC 563B CD ROM • SOUNDBLASTER 16 BASIC
• HEADPHONES • SPEAKERS • MICROPHONES
• REBEL ASSAULT OR 7th GUEST

PANASONIC 563 DOUBLE SPEED GAMES BONANZA EXTRA VALUE PACK £269
INCLUDES
• PANASONIC 563B CD ROM AND INTERFACE
• GROLIERS 6 • IRON HELIX • RETURN TO ZORK • STRIKE COMMANDER • MAD DOG McCREE • STARS WARS CHESS
• WING COMMANDER 11 • 7th GUEST • REBEL ASSAULT

CD-ROM SOFTWARE

• REBEL ASSAULT	£29	• KODAK CD	£15
• 7th GUEST	£25	• TFX	£22
• 7th GUEST/DUNE	£33	• LAWN MOWERMAN	£35
• MAD DOG McCREE	£30	• COMPTONS 94	£85
• ALONE IN THE DARK	£37	• ENCARTA	£77
• INDIANA JONES	£28	• MEGA RACE	£30
• SAM AND MAX	£30	• 3D DINOSAURS	£48
• COMPUTER WORKS	POA	• DOCTOR T's	POA
• CLIP ART PUBLISHER MEGA PACK			£99

MANY MORE TITLES AVAILABLE PLEASE PHONE FOR OUR FREE CATALOGUE!

WHY CHOOSE SCSI?

SCSI (Small computer standard interface) is fast and powerful. Its wide acceptance provides interchangeability, between computers and drives, ensuring longer product life. SCSI interfaces though generally more expensive, allow up to 7 other devices access to one interface giving true flexibility.

SCSI INTERFACES • SOUNDCARDS • AUDIO CABLES
JOYSTICKS & CD CADDIES AVAILABLE ON REQUEST!

SALES HOTLINE

0483 755030 • FAX 0483 756078

HELPLINE 0483 756813

ACCESS VISA AND AMEX ALL PRICES EXCLUDE VAT AND DELIVERY

DISCOVERY PACK £299
CREATIVE LABS
• PANASONIC CR563 • SOUNDBLASTER 16 SOUNDCARD
• SPEAKER AND CABLE • SOUNDCARD SOFTWARE
• 5 EDUCATIONAL TITLES

IF YOU NEED HELP OR ADVICE ON UPGRADING YOUR PC. PLEASE CALL THE MULTIMEDIA HELP-LINE. THIS IS A FREE SERVICE WITH NO OBLIGATION TO BUY
0483 756813 PLEASE PHONE OR FAX FOR FULL PRODUCT RANGE CDL, WALTHAM HOUSE, GROVE ROAD, WOKING, SURREY, GU21 5JB.

WHAT ABOUT SOUND?

Most of the time it is taken for granted that sound will accompany a video clip. Well it doesn't unless you have a sound card. Surprisingly none of the video input cards reviewed had a sound input facility. If you want to record sound a separate sound card, such as a Sound Blaster or compatible, is necessary. You plug the audio signal from the camcorder into the audio card and it's up to you to decide if you want 8-bit mono, 16-bit stereo or whatever. It is also up to you to make sure that the sound card is correctly installed and set up to work with the capture program — usually Video for Windows. Once you have the sound captured along with the video you will still need a sound card to play it back. Editing programs like Adobe Premiere allow you to edit video clips along with their sound track or substitute any WAV format sound that you have recorded separately. Video for Windows also supplies a sound editor.

together. When you click on Make Tape the two recorders start working and automatically assemble the edited tape for you. This is a great advance over manual editing and, as long as you already have the PC, it is a lot cheaper than a specialised edit desk which does exactly the same thing, only not as well. You do need the right sort of video hardware to make the editing accurate — a time coded camera and VCR with a LANC connector is a good choice.

The future

The current state of PC video is really tantalising. As long as you can tolerate the low resolution 'video clip in a window' then video editing using a PC is not only possible but wonderful. However if your aim isn't to produce a multimedia promo or something educational then the novelty of the quarter screen movie rapidly wears off. After all this is the age of high definition TV and home cinema. So how can we continue to be impressed by postage stamp sized videos that jerk and jump their way from the beginning to the end? The problem is of course the hardware. PCs and home computers in general have slowly worked their way up from 8-bit low resolution machines to high power 32-bit machines complete with colour and sound. Only a few years ago even sound on a PC would have been thought of as something for the future – so it's not surprising that full motion video is taking a little longer. There are lots of companies working frantically on making the PC as good as a domestic TV set in terms of image quality but thousands of times more flexible in what it can do. It is in this sense that it is often said that TV and PC are coming together.

The current state of PC video is really tantalising. There are lots of companies working frantically on making the PC as good as a domestic TV in terms of image quality, but more flexible in what it can do.

VIDEO CD AND MPEG

First there was the audio CD, then the CD-ROM and now the Video CD. There have been a number of attempts to sell us the idea of video on disc but none have caught on, and to be honest I have my doubts about Video CD. The idea is that you take a CD-ROM which can hold about 600Mb of data and squash on to it a 75 minute feature film. Of course to do this you have to use compression and in this case the standard method is MPEG, the Motion Picture Experts Group, who were, as the name suggests, a group of experts who defined the standard! MPEG is a very good compression method but it takes a lot of processing power to compress video using it. This has to be done using minicomputers to produce a master disc, but it still takes 40 minutes to compress a single minute of film. Fortunately it doesn't take that long to decompress the data. Games such as Dragon's Lair, and Return to Zork, shown above, have also been produced in MPEG versions.

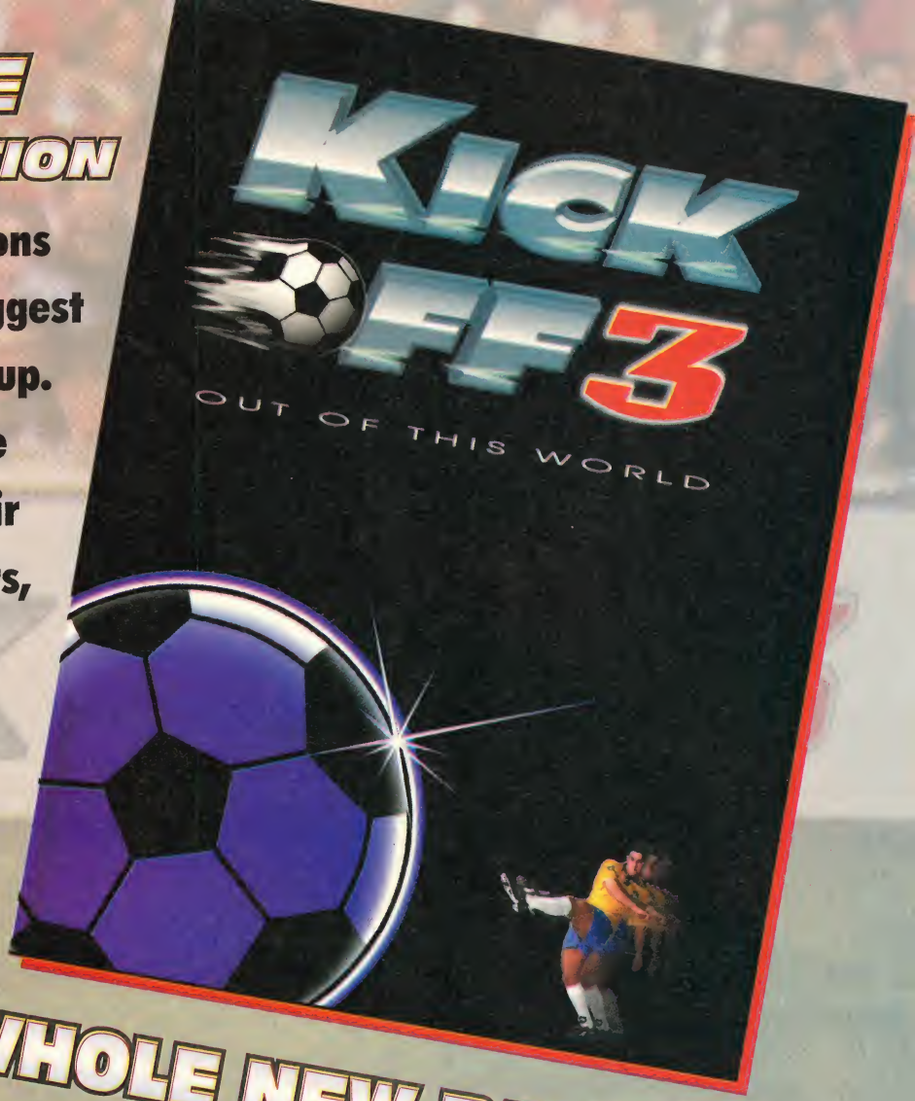
Video discs are primarily aimed at the CD-I player market. CD-I is Philips' attempt to bring CD-ROM into the domestic market — not so much a games console with a CD-ROM, more a CD-ROM with a sort of games console! Until video disc you could use CD-i mostly for games but now you can use it to watch feature films. Even if you have a CD-i player you will still need an add-on unit to watch a video disc, such as Ghost, and Hunt for Red October, pictured here. Alternatively you could buy a ReelMagic card for your PC, which will play any MPEG movie at full screen and stereo sound.

Currently some 50 films from Paramount are scheduled for video disc and 30 MGM movies are to follow soon. The quality of video disc reproduction is variable. Perhaps it depends on the quality of compression used or how much compression has had to be used to fit the entire movie on one disk. The resolution is no better than a VHS player and in many cases worse. Moving objects often seem to judder their way across the screen and lettering is often blurred.

The question is, why would you prefer a video disc and player to a VHS tape and video recorder? And I can't thnk of a reasonable answer. It's only when the video becomes interactive, as in a game or edutainment, that the video disc has anything to offer. I don't care whether Star Trek is on tape or disc — unless, that is, it happens to be a game.

EXPLOSIVE SOCCER ACTION

32 Top footballing nations battle for soccer's biggest prize - The World Cup. The stage is set for the worlds best players to display their awesome skills. Flying Dutch wingers, Masterful Brazilian Playmakers, Powerful English targetmen. Every team plays differently and no two men perform in the same way.



KICK OFF 3 - A WHOLE NEW BALL GAME

AMIGA

PC COMPATIBLES

KEY PLAYERS
Playmakers, Liberos, Sweepers give each nation a style of its own.

TOP LEVEL SOUND
The deafening sound of live soccer into your home.

OVER 2000 FRAMES OF ANIMATION
Fast flowing actions and multi-directional pitch scrolling.

INDIVIDUAL & TEAM PRACTICE
Sharpen up your skills before the big kick off.

TEAM TALK
Switch your tactics and change the game.

INSTANT PLAYABILITY
Control options to suit novice and master alike.

THIRTY DIFFERENT SET PLAYS
Give the most realistic dead ball situations ever.

ANCO

Published by Anco Software Ltd, Unit 7, Millside Industrial Estate, Lawson Road, Dartford, Kent DA1 5BH Tel: 0322 292513 Fax: 0322 293422

ANCO

The target is being able to record and play 640x480 full colour images at 25 or 30 frames per second.

At the moment this can be achieved but only at a cost which puts it out of the mass market product. You can play back video at this quality — but only if you use an add-on card like Sigma's ReelMagic.

You may completely miss the point of ReelMagic unless you know about what is happening in the video world. A new standard for video compression, MPEG, is being adopted.

This achieves very high compression ratios but it requires a lot of number crunching power to implement.

If you try playing an MPEG movie on your PC then, even if it is a powerful machine, it will only manage quarter screen resolution at seven to 10 frames per second.

What the ReelMagic card does is decompress the MPEG video using hardware — in much the same way as a video input card uses hardware to compress the data stream. Add a ReelMagic card to your system and full screen motion becomes a reality – but only from pre-recorded MPEG compressed video files.

Clearly if ReelMagic can achieve full screen playback it should be possible to achieve full screen recording also ... of course, all we need to d o this is the hardware.

THE BUS FACTOR

As has been stated repeatedly, the big video problem is the data rate and traditionally the ultimate bottle neck on moving data from one part of a PC to another has been the bus. The ISA bus is definitely far too slow to move uncompressed video data and even too slow to move compressed full screen video data. The VESA Local (VL) bus is better and the PCI bus even better but in the future something more powerful is needed. The need is for an advanced bus that will allow large quantities of data to be moved within the machine without the processor having to be involved.

This is where VESA — the Video Electronics Standards Association — enter the fray for a second time. Not content with their first attempt at a new bus, the VL bus, they have now defined the VESA Media Channel , VMC. The VMC bus has been designed to cope with the huge volumes of data that video hardware produces. The ISA bus can manage a transfer rate of around 1Mb per second whereas the VMC bus can work at 120Mb per second. This gives it about the same raw data moving abilities as the PCI bus.

What makes it different is that the VMC bus can handle 15 data streams so that video and other peripherals can exchange data simultaneously. For example, a video input card could be sending compressed data to a disk drive and uncompressed data to the screen for viewing. At the moment you cannot buy a PC with a VMC bus but VideoLogic has announced the first VMC bus video card — let's hope that someone builds a VMC bus PC for it to plug the card into very soon!

IS IT YOURS?

One of the problems with the ability to capture video is that it might not be your video that you are capturing. With the increased popularity of home video, film makers have become very sensitive about the use of their property.

Essentially if you capture video from TV or a film then you have to assume that the copyright to the images isn't yours. What this means is that while you could get away with using the captured material for private viewing, anything more will involve a royalty payment. Recently, even companies providing Teletext data have warned that screens captured using PC/TV boards are still their copyright and not be distributed, say, over a network.

If you want to stay clear of the copyright problem then you need to buy tapes or disks of video clips specifically created to be used as stock shots. Adobe Premiere, for example, comes with one sampler disk of clips and an order form for more.

THE ALTERNATIVES

If you're not impressed by the idea of using your PC to edit your video, what are the alternatives? Perhaps the simplest is to hire an editing suite. There are many video companies around the country who hire out their production facilities for around £100 per day. You might even manage to beat the price down if you are prepared to use their equipment when no one else is! This may sound expensive but what you get is professional quality. Obviously this is overkill for your holiday videos, but perhaps not for the movie of the wedding or amateur dramatics.

If this isn't good enough for you then you could buy your own editing suite. A computer-based editing system would cost around £40,000 and it still wouldn't give broadcast quality ... depressing, isn't it?

Screen scene

It is worth adding at this point that how quickly full screen recording becomes low cost depends very much on the development of better compression methods and the ever increasing power of the average PC. For example, when 32Mb of RAM, one gigabyte of disk and a processor faster than the current best Pentium become the specification for an entry level machine then full screen video looks a lot easier!

Even with increased hardware power specialised compression chips will still be needed. A single speed CD-ROM drive can transfer data at between 90K and 150K per second and though double and quad speed drives are becoming common this data rate will be the target for some time.

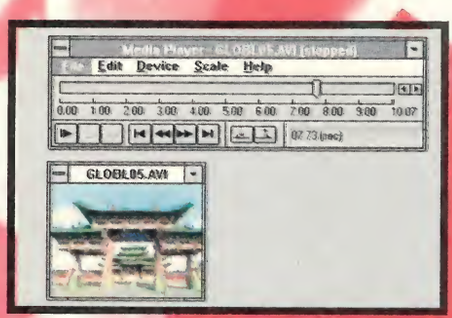
No matter how powerful the PC is you need very effective compression to reduce the video data flow down to 90K to 150K per second. A by-product of this low data rate is that it makes it possible to transmit video data over a network or down a digital telephone line. To transmit video data over an ordinary telephone line you need to get the data rate even lower and then the result is more like a series of stills shown in quick succession. Why would anyone want to send video over telephone lines? The answer is anyone who wants a video phone, video conferencing or a video on demand service. For video on demand you dial up the film you want to see and it is sent to your TV/PC at once — no need to set the video recorder.

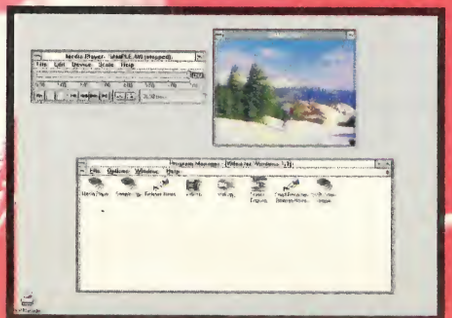
Digital video

The whole video world is trying to go digital — not just to make editing easier and cheaper. The move is exactly like the change from analogue records and tape to digital audio CDs. The advantages of working in digital form are higher quality, lower noise, no reduction in quality on copying and of course easy integration into the digital world of computers and communications.

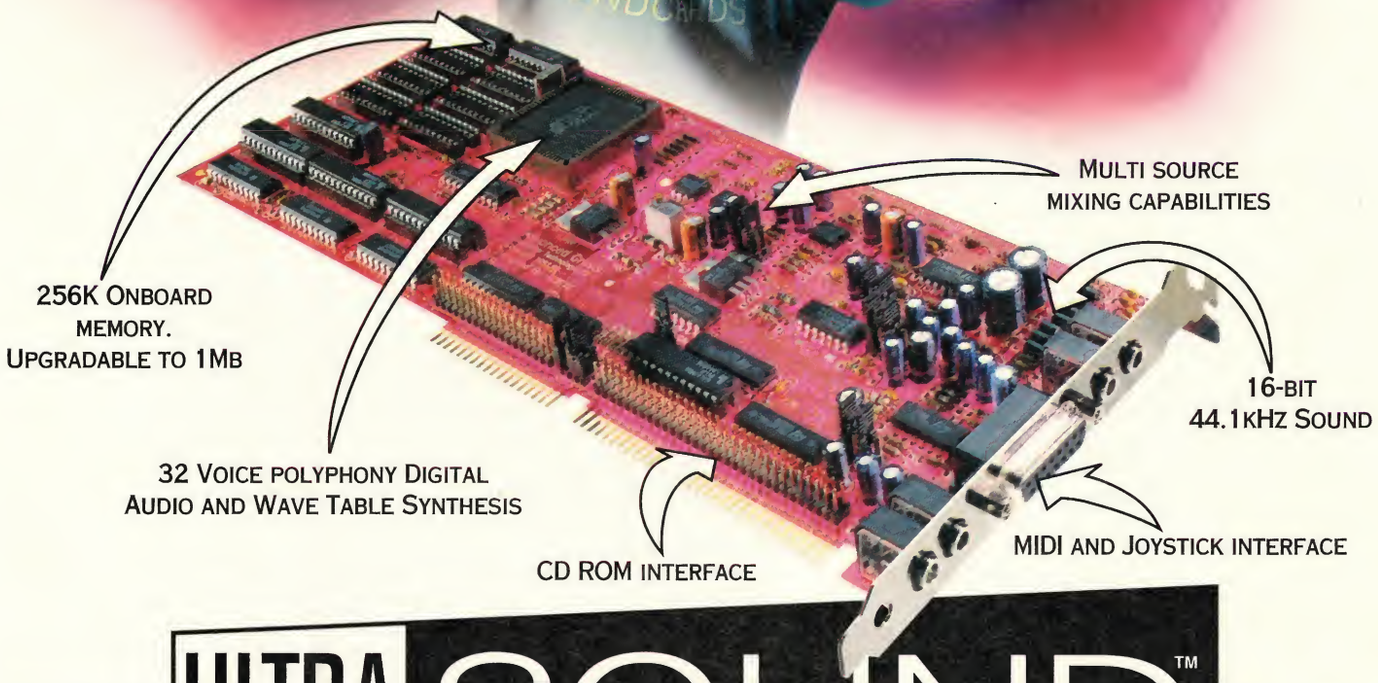
At the moment all camcorders and VCRs are analogue devices. They record continuously varying signals on tape. A fully digital camcorder has just been announced which uses a new standard: DVC (Digital Video Cassette). This new standard is supported by Philips, Sony, Panasonic, Thomson, JVC, Hitachi, Mitsubishi, Sanyo, Toshiba and Sharp — and so it has to be a success! The first cameras are expected at the end of the year or early in 1995. The tape used is smaller than 8mm or VHS and the system should produce better quality than the best domestic camcorders — ie, Hi8 and S-VHS — and perhaps even up to broadcast quality.

Of course, compression is a key element in squeezing four hours of video plus four CD quality audio tracks onto a small cassette. The importance of this switch to digital video from the PC user's point of view is that it will make the technology cheaper and should allow us to read a DVC tape directly into a PC! Who knows ... one day soon perhaps DVC tape drives will be as common on PCs as CD-ROM drives are now!





YOU DON'T NEED BIG BUCKS TO BUY A BIG BAND



ULTRA SOUND™

TRUE WAVE TABLE SOUND & FX FROM YOUR PC

JUST SLOT **"GUS"**, THE NEW GRAVIS ULTRA SOUND CARD, INTO YOUR IBM PC OR COMPATIBLE AND YOU HAVE EVERYTHING YOU NEED TO COMPETE WITH THE BIGGEST BIG BAND. SAX, DRUMS, GUITARS, PIANOS, ORGANS. GUS IS SOUND BLASTER™ COMPATIBLE AND GIVES YOU 16-BIT CD QUALITY SOUND AND 32 VOICE RAM BASED WAVE TABLE SOUNDS. YOU HEAR **REALISTIC** MUSIC AND SOUND FX. BETTER THAN FM SOUND. THE NEW WAVE IS **WAVE TABLE** AND GUS HAS IT ALL. PLUS SUPPORT FOR A WHOLE LIST OF EXCITING GAMES INCLUDING TERMINATOR, RAMPAGE, DOOM, DINOSAUR ADVENTURE II, MICROCOSM, LEISURE SUIT LARRY VI, ARCHON ULTRA, EPIC PINBALL AND MORE! ASK FOR THE FULL LIST AT YOUR LOCAL COMPUTER SHOP.

GUS GIVES THE BIGGEST BANG FOR THE BUCK IN MUSIC AND GAMES.

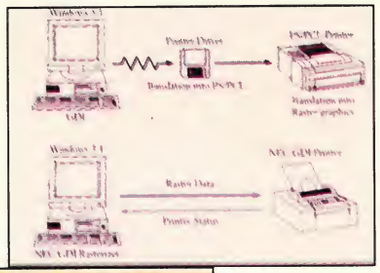
Advanced GRAVIS

ZYE TECHNOLOGY Ltd.: Tel: 0293-538666, Fax: 0293-538414. **LEISURE SOFT Ltd.:** Tel: 0604-768771, Fax: 0604-706773.
CD TECHNOLOGY Ltd. (OPTECH Ltd.): Tel: 0252-735622, Fax: 0252-734177.
ADVANCED GRAVIS EUROPE: Tel: ++ 32-3-4582564, Fax: ++ 32-3-4582568.

COMPETITION

WIN!

The NEC SuperScript 610 – the fastest Windows laser printer in the world!



SECOND PRIZE
Two copies of Micrografx Picture Publisher 4.0
THIRD PRIZE
Ten runners-up prizes of Bluebyte's brilliant Settlers game

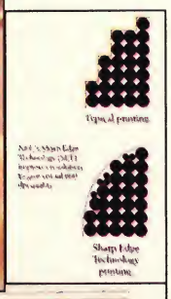
The NEC SuperScript 610 takes a radical approach to printing. Designed specifically for Windows, it's driven by your PC's processor rather than its own, and so when you upgrade your PC — you're also upgrading the printer for free! It'll get faster as the years go by.

The SuperScript directly converts GDI into dot graphics and thereby skips out a stage in the conventional process. In other words, it prints out your images and documents that much quicker than its rivals. In quality terms, the SuperScript 610 offers virtual 600dpi printing, TrueType and ATM font compatibility for WYSIWYG type.

This small, quiet printer — packed with energy saving features — is going to revolutionise the way you print from your PC. What more could your documents ask for?

As a stunning second prize, we have two copies of the £400 Picture Publisher 4.0 to give away. This amazingly sophisticated image-editing package, from drawing specialist Micrografx, will enable you produce professional quality visual effects with scans and Photo CD images and create top quality PC art from scratch.

And 10 lucky runners-up will walk away with a copy of The Settlers from Bluebyte. This charming, but massively challenging kingdom-builder was a smash hit on the Amiga this spring and is now set to repeat its success on the PC. There will be a full review of Settlers in the next issue of PC Review.



HARDWARE REQUIRED

The NEC SuperScript 610 requires a 16Mhz 386 PC, DOS 3.3, Windows 3.1, 4Mb of RAM and a free parallel port. Picture Publisher 4.0 is much the same as regards Windows and DOS requirements, but it also needs a mouse, and a 486 PC is recommended. Settlers needs a 386PC, 585k free base memory, 4Mb of RAM, and a mouse.

HOW TO ENTER

All you have to do for the chance to team your PC up with the super-fast NEC SuperScript 610, or win a copy of Micrografx Picture Publisher 4.0, or Bluebyte's Settlers is to answer the following three questions correctly.

1: The NEC SuperScript 610 uses, a) GDI; b) DIG; or, c) IDG technology?
2: Name one other NEC PC product ;
3: Picture Publisher is a ray-tracing package. True or False?

Send your answers on the coupon below, or a postcard or photocopy to:
PC Review WinPrinter compo
Priory Court
30-32 Farringdon Lane
London EC1R 3AU

Rules

- **Employees of Emap Images, Bluepoint and their families and associates are not eligible to enter this competition.**
- **No multiple entries: only one entry per person, please.**
- **No entries received after the closing date will be accepted.**
- **The editor's decision is incontrovertibly final. As always.**

PC Review Printer competition

Name .....

Address .....

.....

.....

Postcode .....

Answers

1: .....

2: .....

3: .....

☐ **Tick this box if you don't want to receive further information from companies associated with this competition.**

Closing date June 15, 1994 *PC Review June 1994*

ADDICTION

THE HISTORY OF COMPUTER GAMES

This Brilliant value pack contains 25 all time classics on 7 disks and comes professionally packaged with a definitive manual on the history of computer games. This nostalgic trip down memory lane is an absolute must for your games collection at

ONLY £17.99.

Simply fill out the coupon below and make your cheque/postal order payable to The Software Business. Alternatively call the credit card hotline on

0480-496497,

or fax us on

0480-495605.

PC VERSION

Bananoid, Lemmingoids, Jet Pack, Commander Keen 4E, StarFire, Ladder Man, Bounce Zone, CD-Man, Galactix, Jill of the Jungle, Duke Nukem, Llamatron, Moraff's Pinball, Scud Attack, Squirmer, Tetris, WarShips, Kilo Blaster, Strategy, Cyrus Chess, Dangerous Dave, Megatron, Digger Dan, Corn Cob, Crusher.

The Software Business

All Trademarks and Registered Names are the property of their respective holders.

NAME

ADDRESS

POSTCODE PHONE

ITEM PRICE

Please allow 28 days for delivery. POSTAGE at £2.00

Visa/Mastercard/Switch Number: TOTAL

Switch issue No: Card Expiry Date:

SIGNATURE:

Make cheques payable to: The Software Business, Cromwell Business Centre, New Road, St Ives, CAMBS PE17 4BG

Why is the PC such a pain in the butt?

Christina Erskine argues that the PC will never be as popular as the video recorder or compact disc player as long as we have to put up with "not enough memory" errors, device drivers and differing standards.

FEATURES

There are a large number of mainly CD-based console style machines in development which are all waiting to take over the PC's mantle of premier interactive entertainment system. On the other hand there is an equally large number of people pointing at that great survivor, the IBM compatible PC, and saying, no, this is the future of home entertainment, the home office and everything. But the PC has one major flaw.

Put bluntly, it is a pain in the butt to use.

The case for the prosecution

I submit, m'lud, that the PC is so difficult to set up, configure properly — and keep configured properly — so fiddly to expand, and so frustrating to use on a regular basis, that it stands no chance of winning over the hearts, minds, and wallets, of the majority of the population.

For example, we put a disk on the cover of PC Review every month, and every month the calls to our disk helpline cover much the same issues, which are also the same issues that are the subject of general queries to the PC Review office. There seem to be five main areas of confusion with regard to using the PC.

The five most common misunderstandings

> "Configuring PCs has become a significant problem in the PC industry" Microsoft, 1993

1. System memory vs free base memory vs hard disk space.

Along the lines of "When I try to load game x it says 'not enough memory' but I've bought a PC with 8Mb of RAM."

2. Expanded memory vs extended memory and how to configure either.

"Which one's XMS, which one's EMS, why are there two of them, and how do I get one and not the other?"

3. Mouse drivers and compatibility.

"What do you mean, my mouse is incompatible? It works with everything else." You could substitute 'graphics mode', 'sound card', etc, for 'mouse' here.

4. Keeping track of files, deleting, copying and moving files and directories.

"What file? Where? ... well, it says C, with a colon after it. If I type CD GAMENAME? ... no, it still says C, colon."

5. Inexplicable error messages.

"Bad command or filename" is not the most helpful response that Microsoft could have come up with. Data error, sector error, seek error, fatal error are similarly obtruse. Would it really have been so difficult to substitute "You have either typed the command incorrectly, or you are in the wrong directory", and "There is something wrong with the files on disk" for the first messages, above.

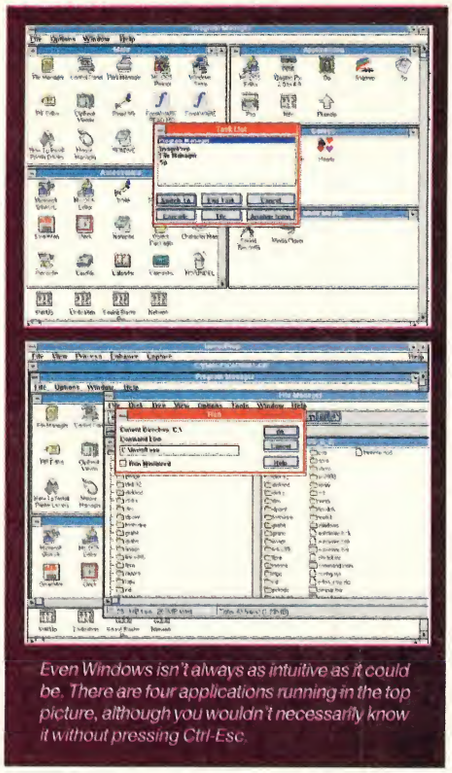
I cite these examples not to sneer or snigger at the people making the inquiries. They are (apart from the odd nutter, of course) intelligent people who have been led to believe that computers behave in an inherently logical manner, and find, understandably, that the arcane issues of differing standards, lack of standards, and finickeries of configuration, defy any reasonable definition of the word logic as it applies to human experience.

Anyway, don't take our word for it. At Amstrad, which sells thousands of PCs in the High Street, the two most common problems asked of its telephone support line are people getting lost in Windows ("They think they've lost applications when in reality it's either minimised or sitting behind the Program Manager," explains Amstrad's David Hennell) and "bloody memory" — the quote is again from Hennell, who adds, "it's the games which are the problem because they are all so different. Until recently, many games required a high amount of base memory to run. Newer games aren't so fussed there, but want a whole load over one megabyte.

"On our new 9486 Multimedia machine, we've added an alternative to our custom front end, so that it will say, 'do you want to quit to DOS?', 'do you want the Amstrad Desktop?', and now, 'do you want to play a game which wants lots of extra memory?'"

Compare this to the way in which console owners get to play games on their Megadrives and SNES machines. You insert the cartridge — into an unmistakably cartridge-sized slot — and the game loads automatically. Put a compact disc game in the Sega Mega CD, and an introductory screen for it then appears straightaway.

"The console market has always concentrated on ease of use," explains Steve Merrett, editor of Mean Machines magazine. "You



Even Windows isn't always as intuitive as it could be. There are four applications running in the top picture, although you wouldn't necessarily know it without pressing Ctrl-Esc.

can even buy an 8-bit adaptor for the Megadrive, so that you can play your Master System games on it. The only problems come with old import Megadrives being incompatible with newer non-Japanese software."

The counter-argument to this is that consoles are inevitably simpler to use, because all they were ever designed to do is play games on proprietary cartridges. PCs, on the other hand, were originally designed as an 'empty box', specifically so that items such as sound cards, mouse drivers and more advanced graphics hardware could be added to them at a later date when the technology was affordable and the demand was there. This system, so the argument goes, provides flexibility and future-proofing (let's face it, the Sega Megadrive isn't going to last for over a decade). And anyway, the PC was designed as a business machine, for the sort of programs that are demanding as far as number-crunching and storage space goes, but not in need of pretty graphics and a full orchestra playing out of the machine. If games players insist on taking advantage of the flexibility of the PC to add joysticks, SVGA cards and Sound Blasters, then they've made their bed and had better just lie in it.

But this won't wash. Firstly, the fact that IBM didn't envisage a future in which any screen other than text would be desirable is no longer here nor there: what we're talking about is the PC as entertainment machine, and whether it will hold its own against the likes of Sony, Sega, Philips and Nintendo between now and the end of the century. Secondly, many, though not all, of the complications of the PC as they appear to the user could be solved through software.

A software solution

Much could be alleviated if publishers incorporated detection routines in their software. Thus, for a program requiring 4Mb RAM, with as much configured as extended memory as possible (eg, both SimCity2000 and Doom, the most popular games of this year so far), the installation routine would detect how much memory the user had in their PC, and then configure it to run the program correctly. It would also auto-detect the mouse connected and load the driver. Ditto the sound card. If it couldn't find any of these, the error message that was displayed would state the problem in plain English: "memory error" is not good enough.

Ideally, all publishers would adopt the same system, and the same command would be used for installation each time. Even when installing a program in Windows, which is usually a case of double-clicking on the .EXE file in File Manager, or typing in the pathname at the Run command, you still find some files are called Install, some Setup, some Winstall, etc. This is silly.

Now, DOS4GW is a DOS extender program which is designed to configure memory automatically. If you load up a program and see an on-screen message saying "Professional Protected Mode Runtime Version 1.95", or similar, then DOS4GW has been included in the program and will attempt to configure your memory accordingly. Unfortunately it can be confused by the Config.sys set-up, which rather defeats the object of the exercise. It looks for the largest segment of continuous memory and uses that. Fine, if your set-up is all expanded, or all extended. But if you have 4Mb, 2Mb of which is configured as extended and 2Mb as expanded, DOS4GW can't work it out.

"What would be ideal is for a memory manager to work out what each application needed, tweak the PC's start-up files so that it's all OK, re-boot the machine, start up the application, and then re-boot again when you exit, so that you've have the original Config.sys back again," suggests David Hennell.

Perhaps it would be too much to ask for software publishers to come up with a common set of stan-

COMMON PROBLEMS

A straw poll of manufacturers and publishers asking for the most common problems reported to their helplines by PC users yielded a remarkable consensus. A representative sample appears below. Frankly, the only conclusion that can be drawn is that if the PC is ever to become easy to use, someone (Microsoft?) is going to have to do something about the way that DOS manages memory.

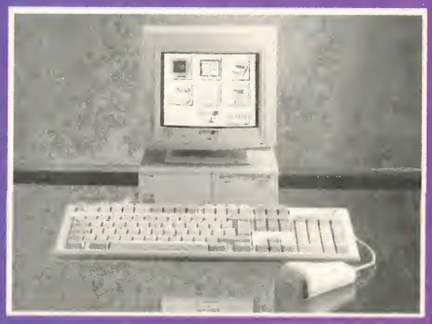
Elonex

(PC sales mainly to corporate and small business users)

- **How do I set a device driver to do 'x'? – where 'x' is to 'loadhigh', or set VGA card parameters, etc**
- **How can I add this second hard disk drive that I've just bought? – where the first may be an IDE device and the second a SCSI model.**
- **How do I connect up a network using Windows?**

Amstrad

(PCs mainly to individual buyers for home/leisure use)

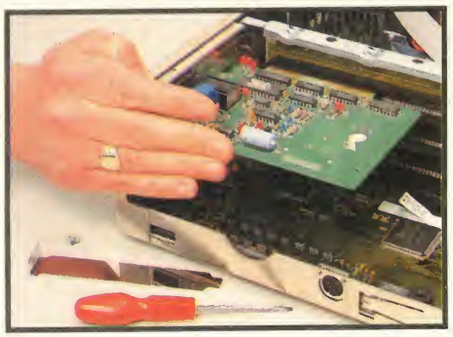


- **I've installed all the software that came with the machine, and I've set up all the device drivers and now it doesn't work. (Amstrad is now putting a red label on its PCs telling buyers not to do this, since software and hardware comes ready-installed.)**
- **I get lost in Windows: one (or some) of my applications seems to have gone missing.**
- **I can't free up enough base memory/How do I free up enough base memory?**

Electronic Arts

(entertainment software sold to individuals)

- **What's the difference between XMS, EMS and base memory? (or, simply, what are they?)**
- **I can't free up enough base memory/How do I free up enough base memory?**
- **What's an IRQ number and why won't my sound card work with your game?**



dards to adhere to. That the installation file for programs should always have the same name, so that when you take the disks out of the box, you know that the command will be "Install", or "Start", or whatever. That programs shouldn't need more than 600K of free conventional memory. That we can do without two different standards for memory over 1Mb.

Not that this would not go down very well with program designers, who would find the whole process too restrictive. Somehow, the name Origin springs to mind. Origin's games have always been processor-heavy and memory-hungry, and the company makes no apology for it.

"Right from the start, Origin has always been aiming at the cutting edge of technology and pushing it to the limit. They're catering for the top-end PC owner and they're not going to compromise their graphics and gameplay," says David Wilson of Origin/Electronic Arts.

The one company with enough clout on its own to dispel anxieties is probably Microsoft. Microsoft, after all, already owns the standard operating system (MS-DOS), standard graphical

10 REASONS FOR PCS BEING A PAIN IN THE BUTT

- AND HOW THINGS COULD BE IMPROVED

Problem	Solution

1. PORTS NOT LABELLED

Label the ports at the back of the PC. It's so simple. And it wouldn't cost much. But it would save a few minutes and no little confusion for new users when they first put the PC together.

2. DIY DEVICE INSTALLATION

OK, so the installation software will usually make all the right configuration changes. But what a faff it is to disconnect the PC, clear away all the surrounding clutter, find the right type of screwdriver, worry about snapping the expansion board in half as you force it into its slot (as in the picture, above), connect up again and so on ad nauseum. Roll on Plug and Play, Microsoft!

3. DIFFERENT INSTALLATION ROUTINES

Now this is one of my real bête noires. Setup, Go, Start, Run, Install, Winstall, Game, Main ... take your pick of the right command to begin installing software to your hard disk. Let's stick with just the one: Install seems to be the current favourite.

4. INSTALLATION TIME

If you spend £50-odd on Mega Thargoids, you want to play it now, not in two hours time when it's finally installed, decompressed and you've fiddled around with the configuration so that it will actually play the background music and emit an occasional sound effect. CD-ROM could be the answer to this one.

5. IMPENETRABLE DOS

REN, CHDIR, MKDIR, CHKDSK, PROMPT pg ... I'm sorry, but this is the language of an alien. I suppose we're stuck with DOS, for the time being, anyway. Encourage publishers to enable more programs to be run from Windows 3.1 is about the only feasible solution I can come up with here.

6. VARYING HARDWARE STANDARDS

No sooner do people settle down with MPC for CD-ROM software than MPC II comes along. The VGA graphics mode was at least an IBM standard, but SVGA is anybody's. Some Microsoft-compatible mice are more Microsoft-compatible than others. We no longer need both XMS and EMS. More than anything else, the PC needs standardisation if it's going to be the future of interactive entertainment.

7. MEMORY CONFIGURATION

The whole business of conventional memory (the first 640K) and extra memory (the stuff over 1Mb — and note the upper memory, that 640K gap in the middle) needs to be simplified and clarified. We need a memory manager that comes with each application that will automatically set up your system correctly — and invisibly, as far as you're concerned.

8. AUTO-DETECT FOR MICE, SOUND, ETC

Perhaps this amazing memory manager could perform this task as well. To be fair, many, if not most, installation programs will now auto-detect mice and put up a sound card menu for you to pick your model from. But these should be watertight: you don't want a "Sound Blaster not found" message when you know damn well there's a Sound Blaster in there.

9. POOR AFTER-SALES SERVICE; DODGY SUPPLIERS

We'll be dealing with after-sales service in more detail in our next issue, but the image of the PC as all-round, leading edge entertainment system is hardly helped by reports of fly-by-night mail order companies and sales assistants who don't know DOS from a hole in the ground. Quite apart from anything else, it unfairly taints the reputations of reliable, honest and knowledgeable suppliers.

10. POOR IMAGE: TABLOID FAVOURITES SUCH AS SPACE INVADERS, VIRUSES, KIDDIE PORN, ULTRA VIOLENCE, ETC, HAUNT PEOPLE'S PERCEPTIONS OF THE PC

If you see someone using a computer on TV or in a film, you can bet it'll either be an antiquated DOS version of a spreadsheet, or something that looks like Space Invaders. Never a groovy graphics package, or Myst, or Rebel Assault. PCs can be relied on to hit the headlines every Friday the 13th with tales of City computers being wiped out by viruses. And while I'd hate to gloss over the reality of hard porn being distributed on disk, it isn't lurking in every computer store or freely downloaded off every bulletin board. As for ultra violence ... the only game I've seen that didn't look like Tom and Jerry style bashing is Doom, and we had more complaints about Body Blows than we've had over Doom. Possibly because Doom is such a good (technically, graphically and to play) game.

Above: the Escom PC may be designed to look unintimidating, but it's still a PC. You can't just take a disk, put it in its slot and see the loading screen appear immediately, as you can with the Sega Megadrive, left.

OVER TO YOU

You've read the case for the prosecution; now, do you think there's a case for the defence? Do you think PCs are unnecessarily difficult to use, or do you think we're making a fuss about nothing? Write to PC Review at Priory Court, 30-32 Farringdon Lane, London EC1R 3AU, with your views on the subject and we'll print a selection in the magazine.

user interface (Windows) and the standard mouse driver software. Microsoft is on record as saying that PC configuration causes customer dissatisfaction, "possibly affecting PC market growth". And, together with Compaq, IBM, Hewlett-Packard and a host of other heavyweight companies, Microsoft is heavily involved in the 'Plug and Play' initiative, which aims to standardise the way that add-on devices are set up on the PC so that configuration is automatic. That's the theory, anyway.

Not only is Plug and Play designed "to enable changes to a PC configuration with no intervention by the user", but "... it must be inexpensive to implement. In particular, it must not significantly increase the per-unit cost of PCs or devices". It sounds great – but Plug and Play is still very much 'in development'.

The summing up

PCs were not meant to be used at home. They have arrived there largely by accident not by design, and original PCs were designed with no architecture defined for installing, identifying or configuring hardware devices, nor for integrating hardware and operating system software. This may be all very well in a corporate set-up with a data systems department for maintenance, but the advent of PC games, and individual ownership of PCs, have muddied the waters no end.

Nonetheless, the PC is currently the prime entertainment computer. It has a huge worldwide installed user base, and a large software publishing base. Sales of PCs into the home in the UK are increasing at a rate that leaves all other formats standing.

The key to the PC's continued health is its versatility. However spectacular the specifications on the forthcoming 3DO, Sony Playstation, et al, the PC will be able to match it technologically through more add-ons and faster processors, while retaining the ability to do more besides. There is PC software for just about every application you can think of; there are PCs in nearly every office in the country and increasingly in homes as well.

But none of this excuses the fact that the PC is a pig to use.

NEXT MONTH

We'll have an in-depth report on after sales support, for hardware, software and games. What can you expect suppliers to do for you after you've bought their products? What is the best deal to go for? How can you protect the purchases you make? Find out in next month's special guide.

THE ORIGINAL
THE BEST
BLASTER
THE
PC
SOUND
STANDARD
SOUND
CREATIVE
CREATIVE LABS
Tel: 0743 248590

The Media Bank at Powermark

Power Mark®

FREE CALL
Technical Sales Order Lines
0500-600 486

ADVENTURE CD ROMS

LABYRINTH OF TIME	£25
JUTLAND	£39
DARK SUN SHATTERED LAND	£29
GOBLINS III	£32
LOST IN TIME	£35
REBEL ASSAULT (STAR WARS)	£31
GATEWAY II	£23
ALONE IN THE DARK	£29
SHADOW OF THE COMET	£29
CYBERSPACE	£31
MARIO IS MISSING	£29
LANDS OF LORE	£29
MAD DOG MACREE	£28

100s of CDs available, including Art, DTP, Image, Geography, Language and many other topics

TOP TEN

Last months best selling CD ROMS at Powermark

1.	MS Encarta	(1)
3.	MS Art Gallery	(3)
5.	MS Cinemania	(5)
6.	Rebel Assault	(6)
2.	7th Guest	(2)
4.	MS Musical Instruments	(-)
7.	MS Dinosaurs	(-)
8.	TFX	(-)
9.	Day Of The Tentacle	(9)
10.	Global Explorer	(-)

Brackets show previous position

ENTERTAINMENT CD ROMS

ADVANTAGE TENNIS	£26
AEGIS GUARDIAN OF FLEET	£42
AKIRA	£19
ANECDOTE 3	£9
BATTLE CHESS	£25
CAPITOL HILL	£27
CASTLES 2	£29
CHESSMASTER 3000	£27
CHAOS CONTROL	£Call
CONSPIRACY	£37
• Act the role of a KGB agent	
CYBER RACE	£44
DARK SEED	£31
DAY OF THE TENTACLE	£22
DEATHSTAR ARCADE	£19
DRACULA UNLEASHED	£25
DUNE	£29
• Adventure game based on the best selling Frank Herbert Novel	
DUNGEON HACK	£28
EYE OF THE BEHOLDER	£Call
GABRIEL KNIGHT	£31
HELL CAB	£56
INCA 2	£37
INDIANA JONES IV	£36
JOURNEYMAN PROJECT	£31
JURASSIC PARK	£24
KINGS QUEST VI	£31
LANDS OF LAW	£37
• A full interactive fantasy role play	
THE LAWNMOWER MAN	£35
LEGEND OF KYRANDIA	£34
• A fantasy adventue in an enchanted forest inhabited with dragons	
LEGEND OF KYRANDIA 2	£Call
LEISURE SUIT LARRY 6 (18)	£29
LIBERATION	£Call
LOOM	£38
LORD OF THE RINGS	£31
MANIAC MANSION	£39
MARIO IS MISSING DELUXE	£31
MICROCOSM	£34
MICROSOFT GOLF	£36
NICK FALDO GOLF	£28
POLICE QUEST IV	£32
• All new police adventure game	
PROTOSTAR	£27
QUANTUM GATE	£31
RETURN TO ZORK	£29
RISE OF THE ROBOTS	£42
SAM & MAX HIT THE ROAD	£Call
7TH GUEST POWERCUT!	£37
SHERLOCK HOLMES III POWERCUT!	£33
• Full-motion colour video whodunits	
SOFTWARE JUKEBOX	£34
STAR TREK	£27
STAR WORKS CHESS FOR WINDOWS	£39
STELLAR 7	£25
SUPER STRIKE COMMANDER	£29
T.F.X	£29
TORNADO	£31
UFO	£37
UNDER A KILLING MOON	£Call
WING COMMANDER 2	£31
WINTER OLYMPICS	£29
WORLD OF XEEN	£35

NEW CD ROM TITLES

A selection of the season's releases. Check availability before ordering.

MS BOOKSHELF	£69
MS DANGEROUS CREATURES	£Call
MS ANCIENT LANDS	£Call
MS MULTIMEDIA STRAUSS	£Call
COREL GALLERY	£45
• 10,000 clip art images	
MEGARACE	£29
SOFTWARE TOOLWORKS CHALLENGE PACK	£29
SIERRA GOLDEN 7	£29
WOLFPACK	£19
WINTER OLYMPICS	£32
FOREVER GROWING GARDEN	£35
MOVIE MADNESS	£35
JFK ASSASINATION	£35
BENEATH A STEEL SKY	£34
A MILLION LAUGHS	£28
SUPERSONIC	£47
250 MUSIC CLIPS	£29
1000 SOUND EFFECTS	£29
IRON HELIX	£28
MAP VISION	£155
STREET MART	£155
MANAGING YOUR BOSS	£22
MAKING TIME	£22
HOLLYWOOD CLASSICS	£27
OCEANS BELOW	£25
SPACE IN MOTION	£25
SPACE (PSYGNOSIS)	£26
GROLLIER V.6	£149
MURMURS OF EARTH	£29
CREATION STORIES	£34
ALPHABET BLOCKS	£29
FUNNY: THE MOVIE IN QUICKTIME	£34
ANIMAL ALPHABET	£34
20TH CENTURY (5 DISK SET)	£112
LOVERS GUIDE (18)	£28
HUMANS 1 & 2	£28
DIGITAL LOVE	£19
WALKTHROUGHS & FLYBYS	£25
THE PICTURE LIBRARY	£28
CREATION STORIES	£34
• Scientific theories and legends of the Earth's Creation	
MICROSOFT ART GALLERY	£33

NEW!

COREL CD POWER PACK

£49

NEW! • Speed up your CD ROM drive with caching software

10 CD ROMs for £35!

Doom, Stellar 7, KQ5, World Fact Book, World Atlas, PC Karaoke Classics, Animation Festival, Media Clips, Time Man Of The Year, CD ROM of CD ROMs - **All for £35**

MISCELLANEOUS CD ROMS

SPACE SHUTTLE	£37
SPACE ADVENTURE	£49
HUTCHINSONS MULTIMEDIA ENCYCLOPAEDIA	£68
• The first British multimedia encyclopaedia	
MACMILLAN'S DICTIONARY FOR CHILDREN	£33
MICROSOFT ENCARTA 1994 POWERCUT!	£69
• 28 volume encyclopaedia	

BARGAIN BASEMENT

CHERRY KEYBOARD	£27
MOUSE - MS compatible, with Mousemat	£8
TRIGENT 1MB SVGA CARD	£49
PANASONIC 562 - CD ROM bare drive (limited stocks)	£129

MUSIC & CINEMA CD ROMS

NEW! MATINEE	£27
• Screen saver for Windows featuring movie shots and MPC sounds	
NEW! A HARD DAY'S NIGHT	£35
• The entire Beatles 90 minute film in a small window with scrolling script and press articles	
NEW! THE MUSICAL WORLD OF PROFESSOR PICCOLO	£39
ROGER EBERTS MOVIE COMPANION	£28
MICROSOFT CINEMANIA 1994	£31
• 19,000 capsule reviews	
• 3000 biographies and photographs	
• 754 detailed reviews and movie stills	
JAZZ	£49
MICROSOFT MUSICAL INSTRUMENTS	£32
GROOVES	£77
• 100 clips of high quality musical accompaniment	
MICROSOFT MOZART	£31
MICROSOFT STRAVINSKY	£31
MICROSOFT SCHUBERT	£31
MICROSOFT BEETHOVEN	£31
• An in-depth analysis of each movement of the Ninth Symphony	
• Musical knowledge quiz	
INTRODUCTION TO CLASSICAL MUSIC	£79
COMPOSER QUEST	£49
MPC WIZARD	£10
SOUNDWORKS	£25

CD ROM ACCESSORIES

Quality Disk Caddy	£5
10 Pack	£45
CD ROM Drive Laser Cleaner	£24
CD ROM Disk Cleaner Kit	£19
Refills for above	£6
CD Tower Storage Unit	£19

FREE CD!

when you buy any CD ROM drive

Choose from these titles:

Jets & Props, World View, Deathstar Arcade Battles, Wild Places, Legend Of Kyrandia, Oceans Below, World Music Sampler

Or

Take any 3 of these CD ROMs for £35

TOSHIBA CD ROM DRIVES

3401 INTERNAL	£259
3401 EXTERNAL	£375
• 200ms access time	
• Dual speed	
• Multisession and Photo CD compatible	
• Requires SCSI host adapter	
Audio leads	£5
Photo CD Software	£29
4101 INTERNAL	£199
4101 EXTERNAL	£279
• 385ms access time	
• Dual speed	
• Multisession	
• Requires SCSI host adapter	

COMING SOON...

DRAGONSPHERE, NOMAD, ADDICTION, CHAMP MAN , MARCO POLO, INSECT ADVENTURE, 10 YEAR CD, ARMAETH, BBC MATCH OF THE DAY, LITIL DIVIL, SIM CITY, 7TH SWORD OF MENDOR, BATTLE ISLE 2, ASSASIN, HEIMDALL II, ALONE IN THE DARK II, ISHAR 3, RAVENLOFT, SIM ANT

SCSI CONTROLLERS

STANDARD AT KIT - INTERNAL	£49
EXTERNAL	£59
ADVANCED AT 16BIT KIT - INTERNAL	£119
EXTERNAL	£129
MCA KIT - INTERNAL	£109
- EXTERNAL	£119
PARALLEL TO SCSI KIT	£74
EZ-SCSI V.2 SOFTWARE	£58

CALL 0500 600 486 IF THE CD ROM YOU REQUIRE IS NOT LISTED HERE

CALL 0500 600 486 IF THE PRODUCT YOU REQUIRE IS NOT LISTED HERE

VAT at 17.5% will be added to all prices

The Media Bank at Powermark

CREATIVE LABS FEATURE

SOUNDBLASTER CARDS

SOUNDBLASTER V.2 DELUXE POWERCUT! **£43**
- Includes Indy 500 and Lemmings

SOUNDBLASTER PACK £84
Includes SoundBlaster V.2 Deluxe, amplified speakers, joystick and bundled software.

SOUNDBLASTER PRO BASIC £59

WAVEBLASTER £125
- Add-on daughterboard for SoundBlaster 16
- Sound Read Only Memory
- 213 DC quality musical instrument sounds
- Presets include 128 instruments, 18 drum kits, 50 sound effects

NEW! **SOUNDBLASTER 16 AWE 32 £199**

ALL OUR PRODUCTS ARE 100% COMPATIBLE AND COME WITH A MINIMUM 12 MONTH GUARANTEE

MidiBlaster

SOUNDBLASTER PRO DELUXE £75
- 20 voice enhanced 4-operator FM synthesiser
- Stereo recording for line-in and CD-audio
- Digital and analogue mixer
- Full software control of fade-in, fade-out, pan, volume, left/right steering and microphone mixing
- Includes Indy 500, Lemmings, MPC Encyclopaedia on CD ROM

SoundBlaster 16 ASP MULTICD

BSI REGISTERED FIRM — NATIONAL ACCREDITATION OF CERTIFICATION BODIES

Certificate no. FS 26535

BS5750 registered for the supply of computer, printer and workstation memory, processor and other upgrades.

Powermark plc is regularly assessed by the British Standard Institute to ensure compliance with the quality standard.

FREECALL 0500 600 486 IF THE UPGRADE YOU REQUIRE IS NOT LISTED HERE

MULTIMEDIA KITS

DISCOVERY PACK INTERNAL £434
- Panasonic CR563 multispin/twinspeed internal CD ROM drive
- SoundBlaster Pro 16
- Pro Digital speakers
- Microphone
- Bundled software included

DISCOVERY PACK EXTERNAL £459
- As above but with external drive

PROFESSIONAL PACK INTERNAL £434
- Panasonic CR563 multispin/twinspeed CD ROM drive
- SoundBlaster Pro 16
- Pro Digital speakers
- Microphone
- Bundled software included

PROFESSIONAL PACK EXTERNAL £459
- As above but with external drive

SOUNDBLASTER CD 16 £415
- Includes SoundBlaster Pro 16, Double Speed multisession internal CD ROM drive, amplified speakers and top selling CD titles

VIDEO BOARDS

NEW! **CREATIVE LABS VIDEOBLASTER SE £209**
- Displays full-motion, digital video in a moveable, sizeable window
- Includes MS Video for Windows, Aldus Photostyler and JPEG
- Overlays computer text and graphics on video

VIDEOSPIGOT POWERCUT! **£194**
- Video capture card giving full motion video in real time at up to 30 frames per second
- Includes Microsoft Video for Windows

TV CODER POWERCUT! **£117**
- Use your TV as a monitor
- Flicker-free display
- Converts SVGA to composite video and SVHS
- VideoBlaster interface
- TV Panel software included

FREE CALL
Technical Sales Order Lines
0500-600 486

SOUNDBLASTER 16 BASIC £105

SOUNDBLASTER 16 ASP MULTICD £159
- 16-bit stereo sampling and playback MultiCD
- 20-voice enhanced 4-operator stereo FM-synthesiser
- CD ROM interface for Panasonic, Mitsumi and Sony CD ROM drives
- Stereo recording for line-in and CD-audio
- Full duplex MIDI interface
- Expansion for PCM wave table synthesiser
- Digital and analogue mixer

SOUNDBLASTER PRO DELUXE PACK £139
Pack includes SoundBlaster Pro card, dynamic microphone, amplified speakers, joystick, 1 in/1 out MIDI interface, MIDIsoft Recording Session software and bundled CD ROM software.

SOUNDBLASTER 16 ASP SCSI £169
- 16-bit real time compression/decompression in hardware
- 20 voice enhanced 4 operator stereo synthesiser
- Joystick port
- Bundled software included
- Supports SCSI I & II
- Includes EZ-SCSI software

MIDIBLASTER £159
- For amateur and professional music composition and presentation
- 20 polyphonic sounds and drums
- 16 channels, 128 preset sounds, 33 preset effects, 55 preset drums
- Bundled software

DELIVERY CHARGES

UK Mainland:
Next working day courier delivery to your door: only £7 per order (£5 per CD ROM software order)

Europe:
2 day delivery to your door: Call

Power Mark®

- **HUGE STOCKS** Guaranteed same day despatch on virtually all orders placed even up to 5.30pm.
- **TECHNICAL SALES PEOPLE** Our sales people are the best. They are trained specialists in their chosen field - multimedia, memory of all types and mass storage.
- **TESTED PRODUCTS** We only supply products from leading manufacturers. Powermark plc is the only BS5750 upgrade reseller.
- **TECHNICAL SUPPORT** Dedicated after sales technical support teams on line to help with installation.
- **CORPORATE & PUBLIC SECTOR ACCOUNTS** We welcome orders from corporate, education and public sector organisations. Just fax or phone your order number.
- **14 DAY MONEY BACK GUARANTEE** Items must be returned (with a returns number from Powermark Customer Service) in "as new" condition for a full refund (excluding carriage). Not valid for opened floppy disk based software.

Use the red border to find these pages easily

TURN THE PAGE FOR MORE

- **INSTALLATION SERVICE** While-you-wait and on-site installation services available. Call for details.
- **PERSONAL CALLERS VERY WELCOME** Save on delivery charges - there's plenty of parking. Telephone first to check our stock position on the items you want. We're also open on Saturdays from 9.30am to 4.00pm.

Powermark plc
Premier House,
112 Station Road, Edgware,
Middlesex HA8 7AQ
Tel: 081-951 3355
(50 lines)
Fax: 081 905 6233

VISA · Access · SWITCH · DELTA

CALL 0500 600 486 IF THE UPGRADE YOU REQUIRE IS NOT LISTED HERE

Power Mark®

The Media Bank at Powermark

FREE CALL
Technical Sales Order Lines
0500-600 486

PROCESSOR UPGRADE EXPERTS AVAILABLE FOR SPECIALIST ADVICE

PROCESSOR UPGRADE FEATURE

Cyrix®

THE NEW CYRIX 386 TO 486 PROCESSOR UPGRADE

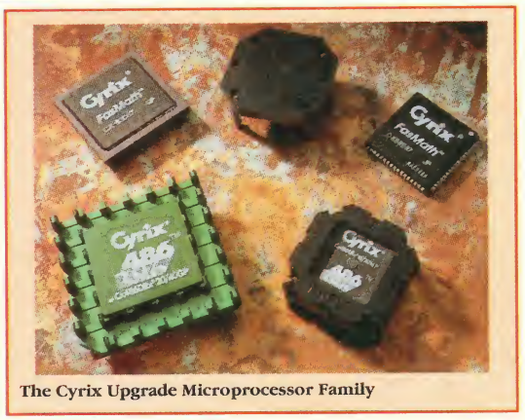
Just when you thought you were up to speed, technology changes. Today's system software puts more demands on your PC. Advanced applications, multimedia and graphics further drain your system's performance.
To keep up you could dispose of your 386 computer in favour of a new 486 model.

Or you could take the smarter, more cost effective option.

Plug in the new Cyrix 386 to 486 Processor Upgrade. It's the fastest, most cost effective way to a 486 computer and its totally compatible with the world's leading software: DOS, Windows and OS/2 operating systems.

The upgrade is based on Cyrix's enhanced Cx486 technology. With it's clock doubling feature, the processor effectively doubles your computer's internal microprocessor speed and without any modifications to your system. You also get performance enhancements such as 1K on-chip cache, fast I/O, and single cycle instruction execution. These features can boost application performance by up to 70%.

Its easy to install. Just remove your existing processor with the tool provided, clip in the Cyrix processor and load the cache installation software. It's as simple as that. You're ready to run in minutes.



The Cyrix Upgrade Microprocessor Family

386DX	DRx² 16MHz to 486 32MHz	£195
	DRx² 20MHz to 486 40MHz	£235
	DRx² 25MHz to 486 50MHz	£265
	LOWER PRICES!	
386SX	SRx² 16MHz to 486 32MHz	£175 ~~£235~~
	SRx² 20MHz to 486 40MHz	£175 ~~£235~~
	SRx² 25MHz to 486 50MHz	£195 ~~£265~~

intel®

Intel OverDrive

INTEL OVERDRIVE

- Upgrades 486SX and DX systems to DX2 performance
- Easy to install single chip upgrade
- Lifetime warranty
- Improves system performance up to 70%
- Fully compatible with DOS, Windows, OS/2 and UNIX

INTEL 486 20MHz - SX40MHz DX	£219.00
INTEL 486 25MHz - SX50MHz DX	£259.00
INTEL 486 25MHz DX - 50MHz DX	£259.00
INTEL 486 33MHz DX - 66MHz DX	£379.00

NEC FEATURE

TURN THE PAGE FOR MORE MULTIMEDIA

NEC CD ROM DRIVES

NEW! **NEC 3Xi**

- Triple speed internal drive
- MPC I & II formats
- New loading mechanism
- 256K cache
- 195ms access time

NEC 3Xi	£299
NEC 3Xi WITH ISA KIT	£353
NEC 3Xi WITH ADVANCED ISA KIT	£443

NEW! **NEC 3Xe**

- Triple speed external drive
- MPC I & II formats
- New loading mechanism
- 256K cache
- 195ms access time

NEC 3Xe	£369
NEC 3Xe WITH ISA KIT	£412
NEC 3Xe WITH ADVANCED ISA KIT	£508

NEC MultiSpin 3Xe

NEC CD ROM DRIVES

NEW! **NEC MULTISPIN 2Xi**

- Double speed multisession internal drive
- 320ms average access time
- 256K continuous flow cache memory
- Dust door and auto lens cleaning

NEC 2Xi	£189
NEC 2Xi WITH ISA KIT	£239

NEC

CALL 0500 600 486 IF THE UPGRADE YOU REQUIRE IS NOT LISTED HERE

NEC MultiSpin 3XP

NEC CD ROM DRIVES

NEW! **NEC MULTISPIN 4X PRO**

- Quad speed external drive
- 600K/sec sustained data transfer
- 180ms average access time
- 256K continuous flow cache memory
- Full function control panel
- Dust door and auto lens cleaning

NEC 4X PRO	£639
NEC 4X PRO WITH ISA KIT	£699
NEC 4X PRO WITH ADVANCED ISA KIT	£799

NEC MULTISPIN 3XP

- Portable triple speed drive
- 450K/sec sustained data transfer
- 250ms average access time
- Full function control panel

NEC 3XP	£319
NEC 3XP WITH ISA KIT	£369
NEC 3XP WITH ADVANCED ISA KIT	£459
NEC 3XP WITH PARALLEL TO SCSI KIT	£390

MULTIMEDIA EXPERTS AVAILABLE FOR SPECIALIST ADVICE

NEC MONITORS

NEC MULTISYNC 3FG £357

- 15" CRT
- Unlimited colours
- 1024 x 768 resolution
- Complies with all EEC health and safety regulations
- 0.28mm dot pitch
- Horizontal synchronisation 31.5KHz to 38KHz
- Vertical synchronisation 55Hz to 90Hz

NEC MultiSync 3FG

NEW! **NEC MULTISYNC 3V** £389

- 15" FST with FullScan, Provides 29% more image area than standard 14" CRTs
- Low radiation
- Intelligent Power Management in accordance with VESA specifications

CALL 0500 600 486 IF THE UPGRADE YOU REQUIRE IS NOT LISTED HERE

The Media Bank at Powermark

MITSUMI CD ROM DRIVES

COMPATIBILITY WARNING
The Mitsumi LU005 CD ROM drive is not fast enough for some graphics intensive programs to run effectively. e.g. 7th Guest.

- Multisession Photo CD compatible
- 340ms access time
- Includes cards, cables & software
- Tray loading
- UK model - not imported

MITSUMI LU005 INTERNAL POWERCUT! £89
With Photo CD software £147

MITSUMI FX001D £159
- Double speed internal drive
- 250ms access time
- 64K buffer
- Motorised tray

SOUND BOARD HARDWARE

ANALOGUE 'Y' CABLE	£8
MIDI ADAPTER 1	£21
MIDI ADAPTER 5 DELUXE	£75
LAPEL MICROPHONE	£7
DESK MICROPHONE	£9
HEADPHONES POWERCUT!	£7
'PROFESSIONAL' HEADPHONES	£19
ORCHID SCSI CHIP KIT	£22
YAMAHA HELLO! MUSIC!	£359
YAMAHA KEYBOARD FOR ABOVE	£289
GOODMANSACTIVE 75	£65

- 80 Watts power output
- Controls for volume, bass, treble

FREE!
CLIP-O-MATIC PAPER CLIP DISPENSER SHIPPEDWITH EVERY 16 BIT SOUND BOARD
(While stocks last)

SOUND BOARD SOFTWARE

SOUNDBLASTER DEVELOPERS KIT	
MS DOS	£48
MS Windows V.3	£48
CREATIVE VOICE EDITOR	£37
TETRA COMPOSITOR	£54
MIDISOFT STUDIO FOR WINDOWS	£133
MIDISOFT RECORDING SESSION	£55
WAVE FOR WINDOWS	£79
EZSOUNDFX	£39
VOICE ASSIST	£59
NEW! MICROSOFT WINDOWS SOUND SYSTEM	£47
MIDISOFT SOUND IMPRESSION FOR WINDOWS	£45
MIDISOFT MENTOR	£77
MIDISOFT MULTIMEDIA MUSIC LIBRARY V.2	£39

VAT at 17.5% will be added to all prices

SOUND BOARDS

ORCHID SOUND PRODUCER £42
- Includes speakers
- SoundBlaster compatible

ORCHID SOUND PRODUCER PRO £76
- Includes microphone & speakers
- Controls for bass, treble, fade, etc

SOUNDWAVE 32 £156
- Includes Zool, speakers and bundled software
- True 16-bit stereo using using Roland chip set
- Supports Mitsumi and Sony CD ROM drives

GAMEWAVE 32 POWERCUT! £125
- Same as Soundwave 32 but without Zool

GRAVIS ULTRASOUND POWERCUT! £118
- CD quality sound
- 32 digital audio voices
- 16 stereo digital voices

LOGITECH SOUNDMAN 16 £115
- 16 Bit CD audio stereo soundcard
- Yamaha OPL-3 chip with 20 voices

ADLIB GOLD £99
- CD quality sound
- CD ROM & surround sound upgrade options

MICROSOFT SOUND SYSTEM £115

PORTABLE SOUND PLUS £149

MEMORY

1M x 1 - 70ns DRAM	£4.42
256 x 4 - 70ns DRAM	£4.98
1M x 9 - 70ns SIMM	£32
4M x 9 - 70ns SIMM	£125

Powermark supply memory, processor and hard disk upgrades for most PCs.

JOYSTICKS

YOKE	£23
YOKE PRO (New G Force model)	£36
VIRTUAL YOKE	£58
FREEFLIGHT JOYSTICK	£33
GRAVIS ANALOGUE STICK	£27
LOGIPAD CONTROLLER	£19
TORNADO	£11
DUAL XT/AT GAMES CARD POWERCUT!	£9

BEWARE
Beware of major incompatibility between CD ROM drives and sound cards. Powermark's specialists will 'multi-match' for you.

Prices and products are subject to change and availability.
All trademarks & tradenames are the property of their respective manufacturers /owners.

SPEAKERS

Quality speakers supplied as matched pairs

POWERSOUND SP10	£9
POWERSOUND DELUXE SP20	£19
• Quality PC style active speakers	
POWERSOUND MAX SP30	£29
ZY-FI PRO SPEAKERS	£48
• 15 Watts per channel	
• Built-in power amplifier	
AR PARTNER AV22	£47
AR PARTNER AV42	£78
ALTEC ACS50	£79
LABTEC CS-150	£17
• Micro stereo speakers	

DELIVERY CHARGES

UK Mainland:
Next working day courier delivery to your door: only £7 per order (£5 per CD ROM software order)

Europe:
2 day delivery to your door: Call

BSI REGISTERED FIRM — NATIONAL ACCREDITATION OF CERTIFICATION BODIES

Certificate no. FS 26535
BS5750 registered for the supply of computer, printer and workstation memory, processor and other upgrades.

Powermark plc is regularly assessed by the British Standard Institute to ensure compliance with the quality standard.

TELEPHONE DIRECTORY

FREE CALL

TECHNICAL SALES ORDER LINES
0500-600 486
AFTER SALES TECHNICAL SUPPORT
081-905 7711
CUSTOMER SERVICE
081-905 7700

FLIGHT DECK

Broaden your Flight Simulator horizons from the widest range of advanced interface controls, scenery disks & books. Commercial pilot available for specialist advice.

POWERPORT 1 POWERCUT!	£9
• XT/AT Games Card	
POWERPORT 2 POWERCUT!	£34
• PS/2 MCA Games Card	
FLY ON INSTRUMENTS (Book)	£14
MICROSOFT FLIGHT SIMULATOR V.5	£25
MICROSOFT AIRCRAFT & SCENERY DESIGNER	£22
FS SOUND & GRAPHICS UPGRADE POWERCUT! Fly Concorde!	£18
AIR TRANSPORT PILOT II	£29
AIRCRAFT & ADVENTURE FACTORY POWERCUT!	£5
SUB LOGIC FULL WEST USA	£57
NEW! SUB LOGIC EAST & WEST USA & AIR TRANSPORT PILOT ON CD ROM	£59
SUB LOGIC EUROPE	£13
SUB LOGIC GREAT BRITAIN	£25
FLIGHT SIMULATIONS NORTH ENGLAND	£25
GEMINI SCOTLAND	£29
GEMINI S.W. ENGLAND	£27
GEMINI S.E. ENGLAND	£29
MS Flight Simulator V.5 Scenery	
SAN FRANCISCO	£19
WASHINGTON	£19
MS NEW YORK	£16
MS PARIS	£16

Power Mark®

HUGE STOCKS
Guaranteed same day despatch on virtually all orders placed even up to 5.30pm.

TECHNICAL SALES PEOPLE
Our sales people are the best. They are trained specialists in their chosen field - multimedia, memory of all types and mass storage.

TESTED PRODUCTS
We only supply products from leading manufacturers. Powermark plc is the only BS5750 upgrade reseller.

CORPORATE & PUBLIC SECTOR ACCOUNTS
We welcome orders from corporate, education and public sector organisations. Just fax or phone your order number.

Use the red border to find these pages easily

14 DAY MONEY BACK GUARANTEE
Items must be returned (with a returns number from Powermark Customer Service) in "as new" condition for a full refund (excluding carriage). Not valid for opened floppy disk based software.

PERSONAL CALLERS VERY WELCOME
Save on delivery charges - there's plenty of parking. Telephone first to check our stock position on the items you want. We're also open on Saturdays from 9.30am to 4.00pm.

Powermark plc
Premier House,
112 Station Road, Edgware,
Middlesex HA8 7AQ
Tel: 081-951 3355
(50 lines)
Fax: 081 905 6233

To: Powermark plc, Premier House, 112 Station Road, Edgware, Middlesex HA8 7AQ. **Please rush me:**

Qty	Description	Price
		£
		£
		£
		£

I enclose a cheque for £ _____ payable to Powermark plc + Carriage £ 7.00 / 5.00*
(Please write your guarantee card number on the reverse of the cheque) + 17.5% VAT £
or debit my Mastercard/Visa **TOTAL £**
Number _____ Expires ___ /___

Please send me your latest information pack ☐ *£5.00 carriage for CD ROM software

Name _____ Company _____
Address _____
_____
_____ Postcode _____
Telephone _____ My computer is a _____

© Cardinal Publicity Ltd

Powermark and the Powermark logo are registered trademarks of Powermark plc.

Virtual reality: PART TWO

Can the Forte VFX1 succeed where all other VR systems have failed before? John Bennett finds out.

Last month, I took a very long look at the Forte VFX1 headset. All in all, it was an extremely impressive piece of machinery, the first PC virtual reality headset with the potential to become a genuine mass-market system.

But the article was necessarily open-ended — open-ended because the VFX1 system was a pre-production model, and open-ended because unless the system gets the software support it needs it'll go the way of the BetaMax video recorder — straight into technological oblivion.

As I wrote at the time, the support for the VFX1 will depend not so much on new and original titles appearing especially for the system (because there's too much at stake for money-minded games publishers to risk massive development costs on something that isn't necessarily going to sell in the thousands straight away), but how easy the software conversion is for existing PC games.

All I could do was take Forte's word for it that the conversion was as easy as they said it was — so easy in fact that it ought to make the VFX1 a no-lose option for games publishers.

Well, Forte was back at the ECTS games industry trade show in Islington, London, last month — this time with the headset — and a number of interesting developments which answered many of my questions about the software conversion *and* prompted this follow-up feature.

UPDATE

There's still no firm news on exact UK pricing of the VFX1, or a decision on who will be handling the distribution in the UK. Advanced Gravis is still courting Forte in a manner which verges on heavy petting, but Forte is playing hard to get ... Versions of the VFX1 will appear under various guises — probably rebadged through other suppliers.

But some new technical details on the headset specification have come to light. First off, the all-important LCDs. Forte now plans to produce two versions of the headset. The standard version will be the one that we looked at last issue, with the 428x240 resolution displays. The other, more expensive version will have enhanced resolution LCDs, which will give an even crisper, clearer image. This is all very much in keeping with Forte's plan to design a modular, upgradable headset.

Secondly, the CyberBat floating controller *is* going to be available separately as well as bundled with the headset for around £99. So if you're looking for a very different type of games controller, it's worth checking out.

Games supported

Ice and fire	Zombie
System Shock	Looking Glass Technologies/Origin
KA range	Knowledge Adventure multimedia range
"Several"	New World Computing
Delta V	Bethesda
Magic Carpet	Bullfrog
Bounty Hunter	Origin

The UK perspective ...

Most interesting was to see the VFX1 on display (at an Electronic Arts/Intel post-show presentation) running Bullfrog's stunning Magic Carpet, complete with motion tracking and full stereoscopic 3D. I'd a fair idea that Bullfrog could only have had the VFX1 to work with for a couple of days at most, so I took the chance to collar Bullfrog's creative boss, Peter Molyneux, about how long it had taken to do the conversion. "Oh, two and a half hours or so," was the nonchalent reply. "Problems? No. Should there have been?"

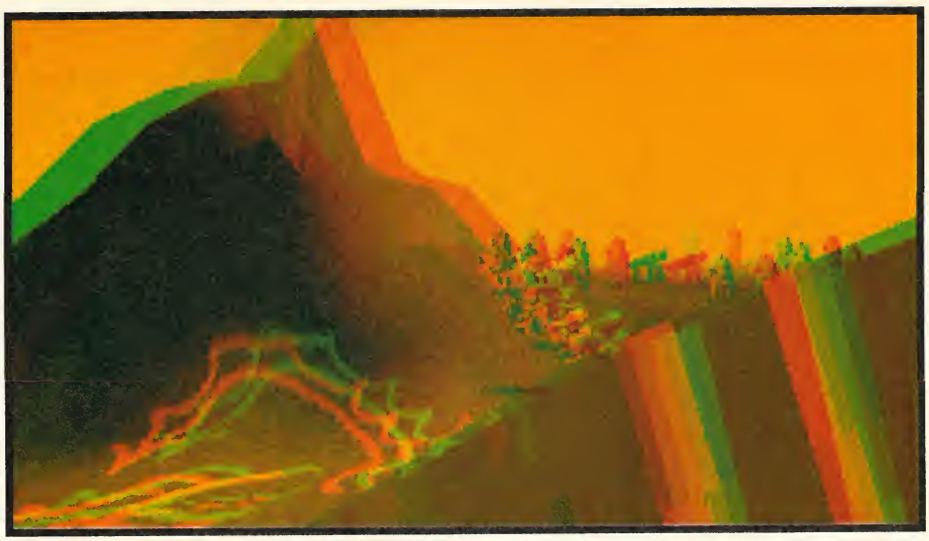
This was not exactly the reply I was expecting. Two and a half hours programming time means next-to-nothing costs for a games publisher. It'd be no skin off its nose to stick out a Forte-based VR version of its existing games, which is a huge step in the right direction for the Forte VFX1.

According to Glenn Corpes, head of research and development at Bullfrog, it actually took a little longer than a couple of hours. More like a couple of days. Even so, Glenn still felt it was a relatively painless job: "It was so simple because Magic Carpet already supported stereo visuals. And, if we'd have done it in a lower resolution it'd have taken even less time — it is very easy to do. The way the screen is double-buffered is very nice, and actually makes it a lot easier than working with the old red-and-green-glasses type of stereo 3D.

What was also interesting is that according to Glenn, the VFX1 support would not have to come in a separate format version of the game, complete with new packaging. It amounts to a mere 500k of extra code, and will be a selectable option in the standard version of the finished game — much as you'd select a particular sound card.

"The only reason I can see that VFX1 support wouldn't be in Magic Carpet would be that we hadn't got our hands on the headset again to test it thoroughly before releasing the software in late summer. After that we have another game with the same engine as Magic Carpet which will also most likely support the VFX1 with too."

He adds, "Personally, I'd love to see the VFX1 succeed because we're very excited about VR. We (Bullfrog) will definitely be looking at adding VFX1 compatibility to future releases where possible.But we need to keep an eye on the commercial aspects to ensure there's enough demand to make it more than a party-piece."



No, it's not out of focus. This is Magic Carpet in its stereoscopic glory, ready for VR systems.

Straight from the States

Richard Garriott, director of Origin Systems (pictured right) is a keen observer of the VR scene: "We (Origin) are probably the most enthusiastic, pro-VR people around. We've been watching VR hardware for over a year — including hardware up to $25,000.

"But we were starting to get very disappointed with the lack of progress made in this area. For a start, the quality of the image and the latency of the movement were not even close to acceptable levels. Then there's a also conceptual difficulty in persuading people to accept headsets."

According to Garriott, the hardware has always been the problem rather than the software. The software support is apparently relatively easy to do, and the sound card analogy is a good one: supporting VR hardware is as easy as supporting multiple sound cards. It's just a menu-selectable option (although making a patch for previous titles is not as easy as adding VR support into the code of a game that hasn't shipped yet).

From Origin's point of view, the VR hardware just wasn't good enough to handle a decent game to make it worthwhile commiting to. And, the VR manufacturers were caught in a vicious circle — until the installed VR hardware base is big enough, developers won't produce software specifically for it. Until the software is available in large numbers, the hardware won't sell to a mass market. And until the VR systems can sell in large numbers, the price of the hardware remains sky-high because of its specialist nature.

That, according to Garriott, may have changed significantly: "Maybe we're about to turn the corner.

There are four major companies coming out with viable headsets — Forte being just one of them. All of them have similar resolutions, they've all solved the latency problems of the motion tracking, and they each have a different approach to the ergonomics and the steroscopic imagery.

"The Forte headset has two main strengths. The ergonomic design makes it definitely one of the most comfortable and user friendly. And, the refresh speed of the device resolution is as good, if not better, than its competitors."

He believes that with this generation of headsets the resolution and speed is finally just about good enough to start VR off. And, the next generation will definitely make it a mass-market product.

This is why Origin is looking to support the major VR systems, including the VFX1, with its new games. The company has two new titles in production, Bounty Hunter (due summer '95) and System Shock (due summer '94), which already work with the VFX1 and other VR systems.

Bounty Hunter is particularly interesting in that it has been designed as a virtual reality game in the truest sense. Garriout describes it as: "Wing Commander meets Ultima Underworld. You move around and collect items on a planet, using a first person view. But you can also get in and fly ships, looking around independently like you do Strike Commander."

"We're designing the game so that every aspect of its interface is designed for VR hardware. Bounty Hunter is going to be the definition of a VR game. It'll be playable on normal screens but the interface is tailored for VR. In the first VR conversions you'll probably need to start the game out of VR, and there will be points in the games when you have to come out of VR and use the monitor normally. This won't happen in Bounty Hunter."

Last words

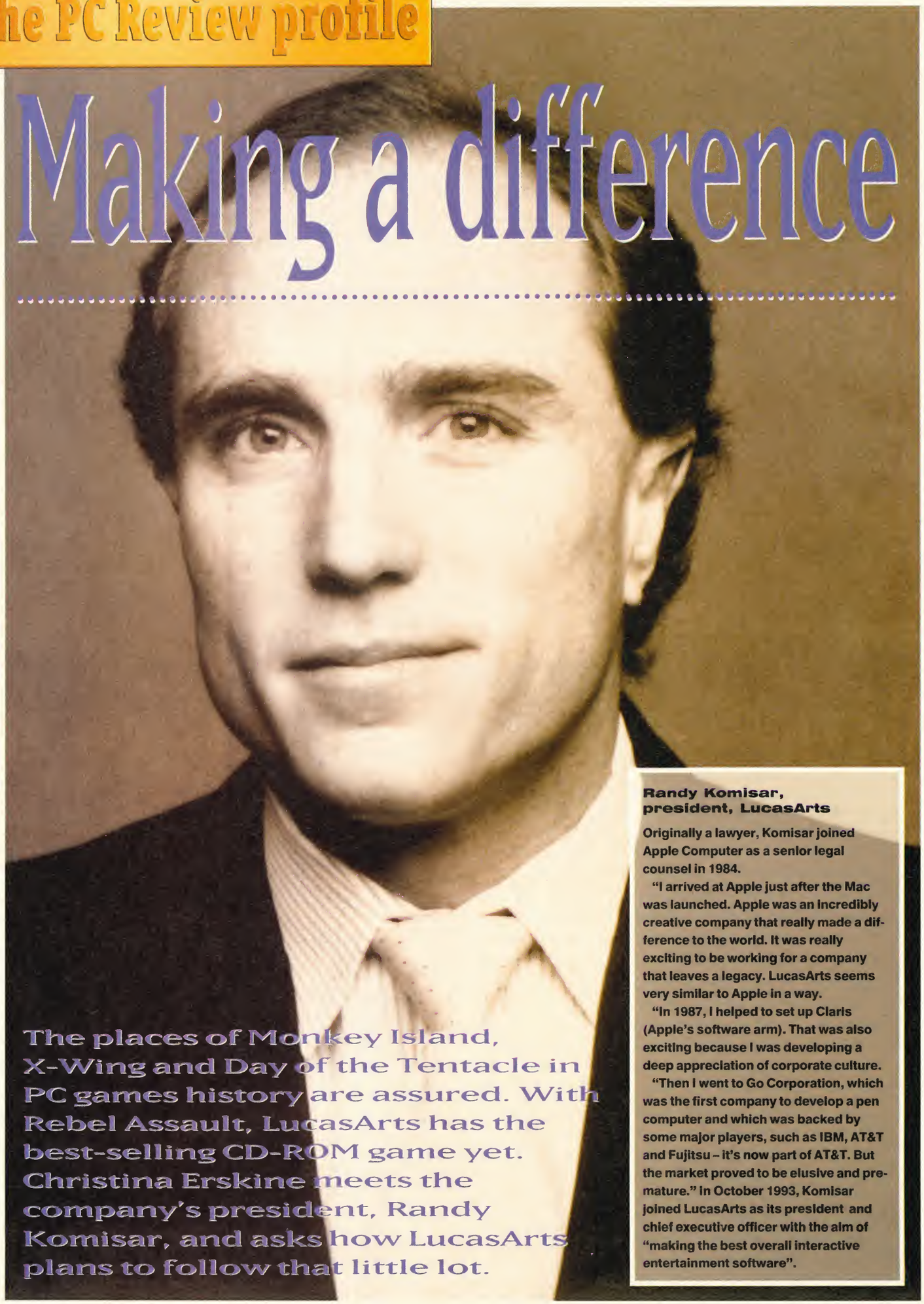
Back in New York, Forte is working away persuading as many publishers as it can shake a headset at that they should support the VFX1 right now.

From what I've been told by the likes of Bullfrog and Origin, the software conversion isn't going to provide a major obstacle. And that was my biggest concern when I first reviewed it. Of course, the VFX1 could still prove to be as big a flop as the Sinclair C5. Maybe we aren't ready for VR headsets adorning every desktop. Maybe people will consider that £650 is too expensive to justify. Maybe not.

But at least it looks as if it won't be for lack of software support, and that has always been the crucial factor in deciding the success of any new computerised hardware products.

The PC Review profile

Making a difference



The places of Monkey Island, X-Wing and Day of the Tentacle in PC games history are assured. With Rebel Assault, LucasArts has the best-selling CD-ROM game yet. Christina Erskine meets the company's president, Randy Komisar, and asks how LucasArts plans to follow that little lot.

Randy Komisar, president, LucasArts

Originally a lawyer, Komisar joined Apple Computer as a senior legal counsel in 1984.

"I arrived at Apple just after the Mac was launched. Apple was an incredibly creative company that really made a difference to the world. It was really exciting to be working for a company that leaves a legacy. LucasArts seems very similar to Apple in a way.

"In 1987, I helped to set up Claris (Apple's software arm). That was also exciting because I was developing a deep appreciation of corporate culture.

"Then I went to Go Corporation, which was the first company to develop a pen computer and which was backed by some major players, such as IBM, AT&T and Fujitsu – it's now part of AT&T. But the market proved to be elusive and premature." In October 1993, Komisar joined LucasArts as its president and chief executive officer with the aim of "making the best overall interactive entertainment software".

LucasArts, it seems, can do little wrong. Four years ago it brought out Monkey Island, a graphic adventure which managed to be clever and funny and challenging as well as pretty to watch. Two years later, it released the sequel, and everyone said it was even better. Not only that, but through LucasArts impeccable connections, it has access to the material and characters from the original Star Wars films, and has used them to magnificent effect. When did you last hear anyone say that X-Wing was "just another boring movie licence"?

But then you could say that LucasArts was born with a golden spoon in its mouth. It was founded as part of Lucasfilm twelve years ago by movie producer George Lucas to provide an interactive strand to his vision of an all-embracing entertainment company. "He had a vision of multimedia entertainment. In the movies, he needed to create new technology for digital media in films," explains Randy Komisar, LucasArts's president and CEO, who joined the company last October.

Using digital effects in films has paid off handsomely for Lucas's special effects division Industrial Light and Magic. The team has won 12 Oscars, most notably recently for its work creating the dinosaurs in Jurassic Park (and some of the humans: when the lawyer is shaken in the tyrannosaurus rex's mouth and later plucked off the lavatory, he is an ILM-created 'virtual' character). The sound post-production division Skywalker Sound has won eight Academy Awards, including , again most recently, which it received for its work on Terminator 2 and Jurassic Park. The pedigree is enough to make LucasArts look pretty minor by comparison.

Randy Komisar, with his experience in the computer industry, was drawn to LucasArts for its vision of the future and the freedom it gives its creative teams.

"It was games like Monkey Island that drew me to LucasArts. I like games although I'm not a hard-core games player. I enjoy Sam and Max and Rebel Assault, but not so much things like Mortal Kombat. Monkey Island seemed to me to be a different direction for games, with a different audience."

Komisar is also committed to the idea of keeping LucasArts as a sanctuary for creative talent. While the company has had an enviable track record for attracting some of the best creative talents in the industry (Ron Gilbert, Hal Barwood, Brian Moriarty, Lawrence Holland all spring to mind), it has also lost some of the best creative talents in the industry, Gilbert having moved on to set up Humungous Entertainment, and Moriarty departing late last year.

"I think Lucas is seen as a creative haven – at least creative people *today* see that. Possibly it's been confused in the past. It's unfortunate to lose a Ron Gilbert or a Brian Moriarty, but you must set up an organisation so that people can grow, move out, and then come back. They do come back. They do that a lot."

Having begun his computer industry career at the creative hothouse that was Apple Computer in the mid-1980s, Komisar is only too happy to cater for the sensitivities of artists and designers.

Above (from left to right): the Sam and Max design team, Sean Clark, Steve Purcell and Michael Stemme.
Right: Vince Lee, programmer of Rebel Assault.

10 things to know about LucasArts to help you break the ice at parties

1 The company is owned by George Lucas, the producer of the Star Wars movies, and is a sister company to 12-times Oscar winner ILM, which produced the dinosaur effects in Steven Spielberg's Jurassic Park.

2 LucasArts *has* released a turkey: the quite hopeless Willow.

3 In Rebel Assault, the men staring worriedly on-screen after Rookie one crash-lands of the planet are Wayne Clue, associate pro ducer of Tie Fighter and Steve Purcell, the designer of Sam and Max.

4 Its first titles, Ballblazer and Rescue on Fractalus, were published by Activision.

5 LucasArts has also published specially commissioned educational programs on laserdisc, such as Life Story: Race for the Double Helix, and Choices and Decisions: Taking Charge of your Life

6 SCUMM is the 'engine' which drives the LucasArts adventures. It stands for Script Creation Utility for Maniac Mansion, and was first used in Maniac Mansion.

7 iMUSE is LucasArts' proprietary sound system, which – broadly speaking – matches the music played to the events on-screen, so that you get tinkly bits when nothing much is happening, and slower, more portentious crescendoes when you're about to discover something momentous. It stands for Interactive Music and Sound Effects, and was first used in the game LeChuck's Revenge.

8 Indiana Jones and the Fate of Atlantis is based on a comic book story rather than a film. (Come on. I think *everybody* knows that. Ed)

9 OK. How about the fact that George Lucas is working on another Star Wars film which is rumoured to be coming out in "the next five or six years"?

10 Steven Spielberg is stuck in Day of the Tentacle.

"When you work with creative people, you must let them work in the way that makes them most comfortable." says Komisar. "LucasArts now employs 70-80 creative people out of 120 in total, and we've always been predominantly creatively led. We have our in-house facility, then Larry (Holland) has his group of ex-Lucas people a mile or so away. That's fine by me. Larry is fully dedicated to working with LucasArts."

Rebel, rebel

For the last couple of years, LucasArts' output has seemed fairly settled. We've had comic adventures (Sam and Max, Tentacle), and we've had Star Wars games (the three X-Wing tales and Rebel Assault). Of these, only Rebel Assault sprung any surprises, with its stunning 3D graphics, created in not-too-dissimilar fashion to the techniques used for those Jurassic Park dinosaurs. But while its animation, sound and speed were all universally praised, it was also criticised in some quarters for the limited controls. Komisar readily agrees that the game wasn't perfect.

"Rebel Assault was clearly a first try. No-one else had done anything like it, and it was an opportunity to push the art forward. By good fortune it came out just as CD-ROM was taking off."

More than good fortune, one suspects. Rebel Assault spent around two years in development, and came out six months after 7th Guest had kick-started the CD-ROM market into action – and in time for Christmas. But, unlike many people who perceive CD-ROM as the only way forward for PC entertainment, Komisar is pragmatic about its potential.

"CD-ROM is unfortunately very slow. To work successfully, you must design the game to work around its weaknesses, and I think Rebel Assault tries to do this.

"CD-ROM is not the Holy Grail of the industry. There's room for floppy disk and cartridge-based games as well, because CD suffers from its limitations.

"Arcade-based games using polygon graphics will work very well on 32-bit and 64-bit cartridges. You look at some of these cartridge characters, and the figures look very static, but when they move, the connection between the movement and control is very different to that on floppy or CD-ROM."

Nor is he about to bandy the term 'interactive movie' about at will. Komisar believes that since LucasArts was set up as part of a group of companies involved in film production and effects, it has a better idea of just what can and can't be achieved. He reckons that games and movies will co-exist, rather than the two forms of entertainment merging in some way, and as he told the recent Intermedia conference in San Jose, California, "I can't imagine sitting on my hands and watching a game roll by for two hours ... I also can't imagine sitting down and watching a movie, no matter how great the story or fantastic the cinematography, for 40 to 100 hours."

Thus, Komisar continues, LucasArts must rely on its most important differentiator, the ability to deliver a truly interactive first person experience.

"Given that interactive entertainment and movies were very different things, George divided the companies into three: one to create characters, which was Lucasfilm, one serving film and TV – Lucas Digital, which includes Industrial Light and Magic and Skywalker Sound, and thirdly LucasArts, to explore interactive media and understand what could be accomplished."

The technologies are converging now. Computers and advanced rendering software are used extensively in films like Lawnmower Man to create characters, and famously, the Jurassic Park dinosaurs were created entirely by computer. Movie actors venture out of Hollywood to Silicon Valley to be filmed and digitised in games. Komisar believes that LucasArts has a distinct advantage in that while established software publishers are primarily technological companies dabbling in film, Lucas is a movie outfit with a technological division – "possibly Lucas understands interactivity better."

Understanding interaction

At any rate, Komisar seems to see four main strands to LucasArts' development in the next couple of years.

"Adventures and puzzle games are one area. Then there's the simulation games – for example, Larry Holland's X-Wing titles; cartridge games, and, well, the Rebel Assault type of game which uses a completely different engine to the others and is really a cinematic arcade game.

"We'll explore other areas, too. But we need to be different: it doesn't make sense to us to do things the same as other people."

And what sort of other areas might he have in mind?

"Well, first person type games, for example, like Doom. That's *very* interesting to us. Also on the cartridge side, we're not that interested in fighting games, but those that use polygon graphics. We could do very different styles of arcade game."

LucasArts is working actively with its sister companies to find a way to create computer games with the same sort of fast interaction as cartridge titles: – "interactive video as a production tool, not a delivery medium". According to George Lucas himself, while the company will "focus in the short term, on the PC market, ovbviously with the CD-ROM capabilities ... the so-called information highway and black box" is the way forward, although some years away.

But then, several years ago, LucasArts produced a networked game, Habitat, before networks were in place the way they are today (it's since found a cult market in Japan). And a Lucas team, Rebel Arts, developed early Virtual Reality arcade systems, which Randy Komisar maintains "rivalled and even exceeded the VR experiences today".

THE DIG

The story so far ... in 1989, movie-maker – and now double Oscar winner – Steven Spielberg contacted LucasArts with the idea of creating a graphic adventure based on archaeology in space. A script had already been written for Spielberg's Amazing Stories TV series, which is transmitted in the US, but proved too expensive to film for TV. After many false starts and discussions, production began at LucasArts, spearheaded by Brian Moriarty. Moriarty has since departed and the project has been taken up by Steve Dauterman and Hal Barwood (the latter of Indiana Jones fame).

"The Dig is now coming out on CD-ROM in October this year. After looking at Rebel, we wanted to use more in the way of imagery to tell a complex story. In The Dig, the depth of character is very, very important, because it's a Steven Spielberg story. It will actually help it to be on CD-ROM – it's not just a question of it getting too big for release on disk," explains Randy Komisar.

Spielberg himself apparently came up with several of the puzzles and scenarios, while ensuring that the tale stayed centred on character development and motivation. The question of just how much input he has had frequently comes up. At the time that development was getting underway at LucasArts, Spielberg was finishing off Jurassic Park before starting shooting work on Schindler's List. Surely after a day on the Schindler's set, coming back to a computer game about space archaeology would be the last thing he would want?

"Steven Spielberg himself has been working with the team and giving them direction. He sees clips from the game periodically. He's a big arcade game player himself anyway. We'd love to work with him again, obviously, but that's pretty much up to him."

The Dig will be the first game to use a new LucasArts system, called StoryDroid. This has been developed from the LANDRU system created by Ed Kilham to illustrate the cut-scenes in X-Wing, and enables — among other things — very big, very detailed locations with parallax scrolling in any direction. It is also both memory and processor-hungry, so be warned! LucasArts, naturally, hopes to use it and refine it for use in future games as well.

THE COMPLETE PC LUCASARTS

Maniac Mansion
1987
Seminal graphic adventure and the first to use SCUMM.

Battlehawks 1942
1988
Battlehawks 1942 was the first of Larry Holland's World War II trilogy, with the action taking place in the Pacific War.

Master Blaster
1988
Collaboration with Rainbow Arts, a sort of air hockey meets Pong with shooting.

Zak McCracken and the Alien Mindbenders
1988
A forerunner to Tentacle rather than Monkey Island. You play an investigative reporter investigating the sort of things that usually only happen to people after they've ingested something possibly illegal.

Willow
1989
In the film, morphing techniques were used by Industrial Light and Magic for the first time in film or television. The game was not such a happy ground-breaker, being a loosely connected series of arcade games. One to chalk up to experience.

Pipedream
1989
Known in the UK as Pipemania, this was a jaunty, if unambitious, game of connect-the-pipes-before-the-water-gushes-through. Licensed from the UK's very own Empire Software.

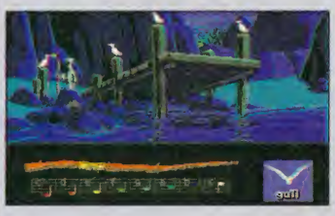
Their Finest Hour: Battle of Britain
1989
Action-packed simulation of Germany vs Britain in World War II. Larry Holland again.

Indiana Jones and the Last Crusade
1989
Puzzle-solving and action game based more or less on the film of the same name.

Their Finest Hour: Missions
1989
A further 23 missions to play with the above.

NightShift
1990
Quirky but appealing arcade style game in which you must keep a lumbering machine running through the night.

Loom
1990
Attempt by Brian Moriarty to get away from the standard adventure game and create more of an interactive folk tale. Not entirely successful, but interesting.



Secret of Monkey Island
1990
Classic adventure by Ron Gilbert. This set a standard for plot, style and humour which many have found hard to reach ever since.

Secret Weapons of the Luftwaffe
September 1991
Last of the Holland-developed WW2 games, this has the added interest of including some of the advanced Luftwaffe prototype planes.

LeChuck's Revenge: Monkey Island 2
November 1991
Ron Gilbert took the characters – Guybrush Threepwood, Largo LeGrande, LeChuck himself – and extended the story and in-jokes even further.

SWOTL: He-162 data disk
1992
New aeroplane for the above.

SWOTL: P-38 data disk
1992
As above.

SWOTL: P-80 data disk
1992
As above.

Indiana Jones and the Fate of Atlantis
September 1992
Take control of both Indy and his helpmeet Sophia and beat the Nazis to the lost world of Atlantis.

X-Wing
April 1993
Best-selling PC game in 1993 in the US, and the first PC game to make use of the Star Wars characters and craft. A tough set of missions to undertake on behal of the Rebel Alliance.

Imperial Pursuit
August 1993
Add-on missions for the above.

Day of the Tentacle
August 1993
Very funny graphic adventure, ostensibly the follow-up to Maniac Mansion, but several light years ahead in terms of polish and presentation.

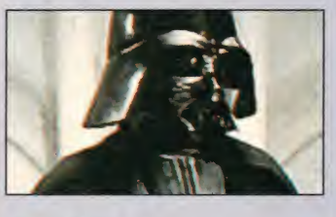
B-Wing
November 1993
More missions, more craft – now you're in charge of the B-Wing.

Sam and Max Hit the Road
November 1993
A dog and rabbit private eye team, plus clever cartoon-style graphics and some of the weirdest premises for puzzles ever made this a great game.

Rebel Assault
December 1993
Arcade 'movie' on CD-ROM only, this takes you through a potted history of the Rebel Alliance. The graphics are to die for.

FORTHCOMING

Star Wars Screen Entertainment
June 1994
A comprehensive screen saver based on Star Wars characters and themes, with several modules. You can even type in your own message and see it scroll off into the galaxy just like the film's credits!



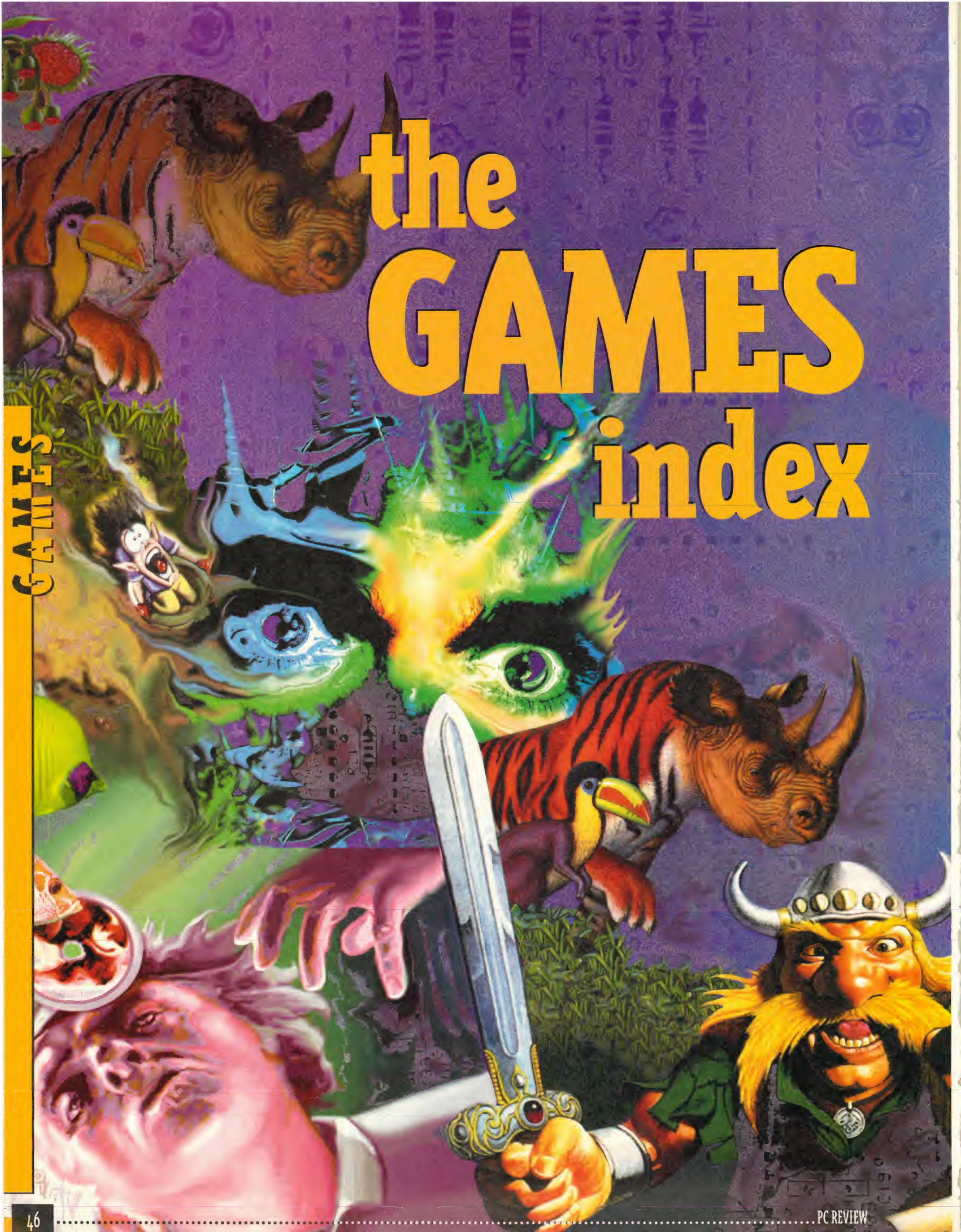
TIE Fighter
June 1994
The sequel proper to X-Wing, except this time you're on the side of the Empire.

The Dig
October 1994
Adventure co-designed by Steven Spielberg. See separate panel opposite.

LASER DISC GAMES

Treasury of Literature:
Tiger Tales
Planetary Manager
The People
Life Story: Race for the Double Helix
Choices and Decisions:
Taking Charge of your Life
Night of the Living Statues
Paul Parkranger and the Mystery of the Disappearing Ducks

the GAMES index



Reviewed this month GAMES

Welcome to PC Review's games section, 50 pages of reviews, news, previews and tips covering absolutely everything that's happening in the world of PC games.

We know from our surveys and correspondence that you consider the reviews not only the most important part of the magazine, but also the best games reviews in the business. That's why we take the trouble to include additional information such as the Alternatively panels which are there to place the title being reviewed in context. We'll tell you about similar types of game which may be more – or less – to your taste. We also include playing guides to many of the games we reviewed, designed to give you a feel for what the game is really like.

The ratings

PC Review gives a single mark out of ten to rate games. We chose ten because it's succinct, simple and because there's little point in haggling over the odd percentage point between an arcade game and a war game which can't really be directly compared anyway.

We can be pretty tough on games when we put our minds to it – since 'five' is the average mark, any rating above five means the game is above average and vice versa.

0 A game without absolutely nothing to recommend it to anyone.

1-2 Poorly implemented game, badly programmed, very disappointing.

3-4 A game with some good ideas but serious drawbacks: poor controls, poor animation, maybe just plain tedious.

5 A solidly average game. Competent without being anything special, probably enjoyable in the short term.

6 Won't disappoint any fans of the genre; an above average title but probably one which doesn't break any new ground.

7 Good, imaginatively programmed game which should appeal to the majority of players.

8 Very good indeed — a game will need something special in the way of gameplay, innovation, graphics or sound to worth an eight.

9 Outstanding as an all-rounder. Few, if any, failings, in graphics, sound, atmosphere, playability, ease of use, etc.

10 Sheer perfection.

ADVENTURES

Myst (CD-ROM) 48
Spaceship Warlock (CD-ROM).....61
Hell Cab (CD-Rom).....65
Red Hell.....66
Darkseed (CD-Rom).....69

ARCADE

Breakline.....54
Corridor 7.....64
In Extremis.....66
Diggers 68
Spiritual Warfare 68
First Samurai (budget).....77

COMPILATIONS

Quest and Fun 76
Battles of Time 54

ROLE-PLAYING

Ravenloft.....58
Lands of Lore (CD-ROM) .64

SIMULATIONS

SimCity 2000 Great Disasters Vol 1 70

SPORTS SIMS

Castle Pines (Links 386 add-on disk).....54
Summer Challenge/Winter Challenge (CD-ROM).....77
Great Courts (budget) 77

STRATEGY

Reunion.....52
Genesia 57
Eye of the Storm.....70

WAR GAMES

Aegis (CD-ROM) 61
Carriers at War (CD-ROM).....69
Great Navel Battles 2 72

QED

Ultima VIII 82
Gabriel Knight 86
Hand of Fate 88
Tips.....90
Help lines.....92

PREVIEWS

FIFA Soccer 94
Empire Soccer.....94
Lords of Midnight: The Citadel.....95
Doom 2 (the wishlist).....96

REGULARS

Competition: win a CD-ROM drive with Litil Divil! 81
Sim Analysis competition.....97
Coming Soon 98
Charts.....99
PC Review Recommended 100
Ciaran Brennan.....101

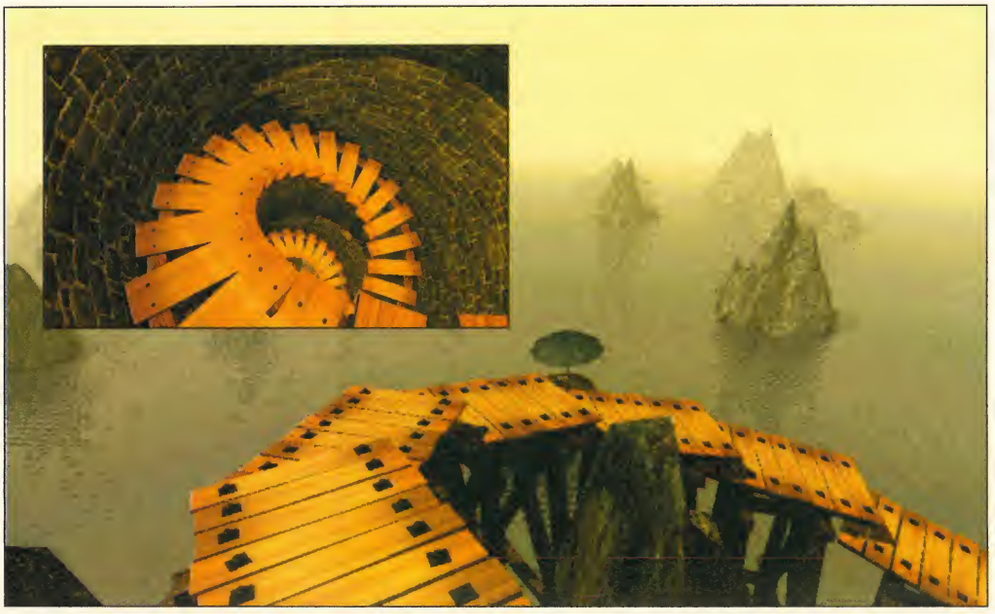
Myst

If you're wondering why you should invest in a CD-ROM drive, take a look at Myst. Here, at last, is a true multimedia game.

At the top of the stair is a key chained to the floor. At the bottom is a chest. How do you get one to the other?

It looks beautiful. Myst is quite possibly the most attractive game to have appeared so far on the PC, CD-ROM or otherwise. Yes, I know what you're thinking. There have been quite a few good-looking games on CD, but many of these have been lacking in the gameplay department. Myst, however, is different. Not only does it look amazing, but it's original and challenging as well. And that, really, is about as much as you can hope for in a game.

Myst has a plot, but it adds flavour to the game rather than governing every event. It begins when you discover an intriguing book which tells the story of a strange and fantastic island world. As you turn the last page your surroundings begin to fade and you find yourself magically transported to the world described in the book. Myst Island is a surreal place – the first thing you see when you arrive is a giant cog perched on top of a cliff. In fact, there are cogs everywhere. Other islands have novelty gift shops: Myst has cogs. Don't ask me why. Perhaps the guys at Cyan have a fetish for machine parts or something.



Mysterious

As you begin to explore you'll discover that the island is deserted. Apart from the various buildings hidden amongst the trees, the only evidence that anyone has been here at all is a letter you'll find lying on the path to the docks. The letter has been written by someone called Atrus, and a quick trip to the nearby library will help you to find out more about him. The library contains many books, but most of these have been damaged and are unreadable. A few journals remain, however, and these detail Atrus's visits to other exotic lands.

It transpires that Atrus is a writer of magical books which, when read, transport the reader to the fictional world described in the pages. It doesn't, therefore, take a huge amount of reasoning to work out that the book you were reading at the start of the game was, in fact, one of his creations. If anyone can help you return home, Atrus can, but he has disappeared along with his wife and two sons.

Unless you can unravel the island's many mysteries, you're stuffed.

Myst is strikingly different from other adventures. Sure, it has its fair share of exploration and puzzle solving, but you don't need to take objects away from locations and there are none of those "stick the banana on the metronome to distract the monkey" type problems. It's very straightforward. The puzzles are solved through logic rather than trial and error or pure luck, and I must admit I found many of them quite difficult.

"Myst is quite possibly the most attractive game to have appeared so far on the PC, CD-ROM or otherwise."

For example, in the Stoneship Age, you'll find a building which has a key at the top of the stairs and a locked chest in the basement. Since the key is chained to the floor, you need to find a way of getting the chest upstairs, but you're unable to move it yourself. When you first enter the building, the basement is flooded and you have to press a switch to pump the water out. Once you've done that, you must go downstairs and examine the chest carefully. Because the chest has been submerged, water has seeped in making it too heavy to shift. A valve on the side will empty it. You're still unable to move it, however, but it might just be light enough to float. Simply return to the pump switch and press it to let the water back in. On return, you'll find that the chest has indeed floated up to the top of the stairs and you will now be able to use the key to unlock it. And so on.

Although all the puzzles require the same logical approach, they are varied and interesting, making the most of your PC's multimedia capabilities. Some of the puzzles are visual, whilst others are sound-based instead.

The Stoneship Age is moody and atmospheric, but although it lacks Myst Island's bright sunshine, there's still no sign of rain.

ALTERNATIVELY

Labyrinth of Time
Electronic Arts, £39.99
Rated 6, Issue 28

Labyrinth of Time is very similar to Myst: both are multimedia products, both boast superb graphics and both are very surreal. Although Labyrinth is visually stunning, it lacks Myst's air of mystery and intrigue, and puzzles are solved by trial and error rather than logic. Great looks, but unfortunately the gameplay misses the mark.

Lost in Time
Coktel Vision/Sierra, £44.99
Rated 8, Issue 25

Lost in Time is visually very different from Myst, using digitised backgrounds and video footage rather than ray-traced graphics. It is, however, very attractive, and the logical but challenging puzzles are refreshingly different from those in most other adventures. It's a nice, original game and is available on floppy disk as well as CD-ROM.

User friendly

The puzzles may be mentally taxing, but the playing interface is so simple that anyone could use it, irrespective of whether or not they've played a graphic adventure before.

Moving around or manipulating objects is simply a matter of clicking on the relevant part of the screen.

This means that you can get straight into the game without having to spend time mastering an awkward control system.

If only all games we played were this user friendly, eh?

MYST ISLAND

This building is a power station (so where are the cooling towers?). But what does it power?

The central puzzle involves the toy boat which has been sunk in the bird bath. How do you get it to float?

It looks as though Flash Gordon has parked his spaceship here. You'll have to find a way to open the door.

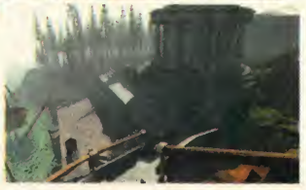
The library is the centre of all knowledge, so it stands to reason that you'll find many clues here.

The clock tower stands on an isolated island, but a causeway will appear if you set it to the right time.

You'll be able to indulge in a spot of star gazing inside the planetarium. Watch out for the dentist's chair, though.

The furnace inside this log cabin powers the lift in the tree nearby. All you need is matches...

The largest tree on Myst contains a lift which will take you high above the island.

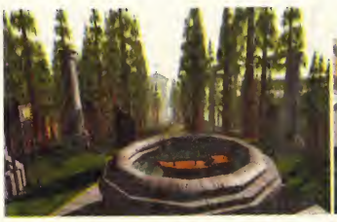


Is there a link between the sunken ship in the dock and the toy boat in the birdbath?

Myst Island is famed for its beauty, its sunny weather and its, er, cogs. And what are they for? Dunno, mate.

FLOAT YOUR BOAT

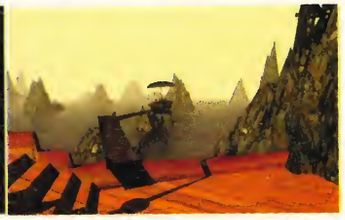
In addition to Myst Island, there are four worlds to explore, each of which is concealed in one of Atrus' books. The books are well hidden, however...



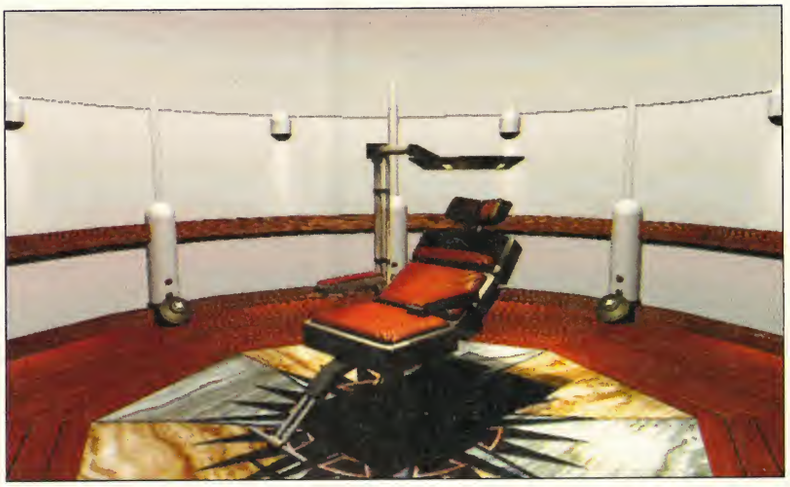
The idea is to get the toy boat to float to the surface of the bird-bath, which I've managed to do. The planetarium holds the key to this problem.

It turns out that the toy boat mirrors this ship, which you first find sunken in the dock. If you can get the toy boat to float, the ship will follow suit.

Once you've succeeded, you'll be able to have a nose around on board. Hidden away in a cabin, you'll find a book which will lead you to another strange world...



This is the Stoneship Age, a land which contains, funnily enough, a lot of stone and quite a few ships. More wonderful graphics; more infuriating puzzles.



Left: This may look like a dentist's surgery, but it's actually the planetarium on Myst Island. Sit in the chair and you'll be able to look up at the stars.

The most outstanding feature, though, is the graphics. The world of Myst is viewed from a first-person perspective, and although it is represented by a series of still rather than scrolling screens, it is visually breathtaking. The photorealistic backgrounds have been created from scratch using the 3D art package, StrataPro, and have none of that irritating graininess which you get with digitised pictures. Every object has been light-sourced, lending it a convincing solidity, and the use of light and shade have adds atmosphere to the game. The whole feeling of the game is one of tranquillity laced with intrigue, making it accessible to almost anyone. Anyone, that is, except for John, our deputy editor, who isn't happy unless he's blasting some poor creature to bits with a large gun. Myst is non-violent, so if death and mayhem appeal to you, then Myst probably won't.

Other than that, I find it hard to fault the game. As with all adventures, once you've completed it you probably won't go back to it, but it's very enjoyable while it lasts. The only thing that you might find off-putting is the level of difficulty – the puzzles are so different in style from those in other adventures that it takes time to get into the swing of things, and it's easy to get disheartened if you aren't making any progress.

The one thing I did find irritating was that, no matter where you save the game, you always end up back at the start of that world when you restore. If, for example, you saved your game half way up a tree on Myst Island, you'll find yourself back in the library on return. I can't really understand why this is the case, because I doubt that Myst would be any less challenging if you could restore to the exact location where you saved the game. Beyond that, it's an exemplary CD game.

Windows 3.11

One word of warning. Like many CD-ROM products, Myst does not work well with Windows 3.11. I found that it ran very slowly, and bombed out on several occasions. These problems didn't seem to occur (not yet, anyway) with Windows 3.1, and I recommend that you use this instead. You should also have at least a double-speed CD-ROM drive.

If your PC meets these requirements, then do yourself a favour and go out and get a copy. Myst is so fresh and original that even the most jaded adventure hack will be enchanted by it. It is visually, aurally and mentally stimulating – the first CD game I've played which scores highly in all the categories. All I can say is, "At last!"

■ Cal Jones

> "Myst is so fresh and original that even the most jaded adventure hack will be enchanted by it."

TECHSPEC

9 RATING

Beautiful and challenging – a real treat.

Publisher:	Electronic Arts
Price:	£44.95
Contact:	(0753) 549442
Minimum PC:	386, MS-DOS 5.0, Windows 3.1
Minimum memory:	4Mb
Minimum graphics:	SVGA
Sound:	All MPC compatible cards

CYAN

Myst is the creation of brothers Rand and Robyn Miller, whose company, Cyan, was founded six years ago. Up until now they have concentrated on producing educational software for the Apple Macintosh, and Myst is their first adult-oriented release as well as their largest product to date. The Cyan team started work on Myst two years ago, and a 14 minute-long "Making of Myst" QuickTime video has been included on the CD along with the game.

OFFICIAL
Advanced Dungeons & Dragons 2nd Edition
COMPUTER GAME

AL-QADIM™

THE GENIE'S CURSE

Explore a new game world in the style of the Arabian Nights!

High magic and dark deeds reign as you face the evil Genie Lords in a quest to restore your family honour! A complex, pre-generated character grants you quick entrance into the all-new AD&D® AL-QADIM™ game world. Encounter genies, sinister sorcerers, wise hermits and many more mysterious beings, each with their own secrets and challenges. Use magical items to face the challenge of real-time combat and puzzle solving. And savour a tightly woven story line that's enhanced by grand cinematic musical themes – *all in the exotic new AL-QADIM game world!*

IBM 256-color VGA Displays

IBM
& COMPATIBLES

Available on 3.5" disks and CD-ROM.

Marketed and distributed by U.S. Gold Ltd., 1-4 Cuckoo Wharf, Lichfield Road, Birmingham B6 7SS. Tel: 021 606 1800

U.S. GOLD®

SSI®

ADVANCED DUNGEONS & DRAGONS, AD&D, AL-QADIM, the TSR logo and all TSR characters, character names, and the distinctive likenesses thereof, are trademarks owned by and used under licence from TSR, Inc. ©1994 TSR, Inc. ©1994 Strategic Simulations, Inc. All rights reserved.

HINTS TIPS N HELP CALL THE GOLD PHONE
Service provided by U.S. Gold Ltd., Units 2-4 Cuckoo Wharf, Lichfield Road, Birmingham B6 7SS
TECHNICAL SUPPORT HOTLINE 021 328 6318

LUCASARTS: 0839 654 123 Loom • Secret of Monkey Island • Monkey Island 2 – Le Chuck's Revenge • X-Wing • Rebel Assault • Day of the Tentacle • Sam & Max • Indiana Jones and the Fate of Atlantis • Indiana Jones and the Last Crusade • Zak McKracken • Maniac Mansions **DELPHINE SOFTWARE INTERNATIONAL:** 0839 654 284 • Flashback • Another World • Cruise for a Corpse • Operation Stealth **S.S.I:** 0839 654 139 Eye of the Beholder • Eye of the Beholder 2 • Heroes of the Lance • Dragons of Flame • Veil of Darkness • **LEGENDS OF VALOUR:** 0839 993 356 • **SIR - TECH WIZARDRY HINT LINE:** 0839 994 477 **NOVALOGIC:** Comanche Maximum Overkill: 0839 007 725 Please note: The above information was correct at the time of publishing 1st March 1994 Calls are more expensive than ordinary calls and are currently 39p a minute cheap rate and 49p a minute at all other times. **YOU MUST OBTAIN PERMISSION FROM THE PERSON WHO PAYS THE BILL BEFORE CALLING.** Contact U.S. Gold, Tel: 021 625 3388 if you require further technical details.

Reunions always sound like a good idea but rarely are. You can never go back...

REUNION

Stars of the show, right. You can decide who you want to be.

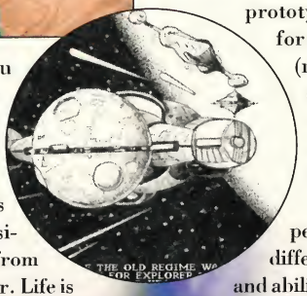
There are games which appear to be mind-bogglingly vast, so daunting in their scope and complexity that you feel the need for another lifetime to even begin to do them justice. Such a game is Reunion, a heady mix of strategy, exploration, conquest, political deftness and endurance. It is Frontier meets SimCity and much more.

But it takes perseverance. Seldom have I ever seen a more tedious, long-winded, over-long, pointless introduction sequence to a game. It goes on... and on... and on...

And many of these intro images are in black and white, enough to make you question why you ever needed to invest in an SVGA card in the first place. But just as the eyelids begin to droop — it ends and you discover that not only do you wish to conquer the universe, you also need to rediscover your ancestral roots.

Production line: To survive you must produce. Here a satellite is made ready.

Work carries on in the mines but unrest grows throughout the population.



The setting is the year 2927 on New Earth, a community which is thriving under your Presidential leadership, free from conflict, friction or hunger. Life is good. Unshackled from the pressures of everyday survival, attention is turned on space exploration. Just what is out there?

Well, what is in the vastness of the cosmos is Old Earth, the planet from which your ancestors left more than three centuries before. After years of prosperity and peace a sudden, mysterious and bloody conflict erupted with the rebels overturning the ruling regime. But before the established order was destroyed, a spacecraft, Explorer 2, was sent to find a new life and hope. They found what became New Earth and prospered.

What caused the uprising on Old Earth and what became of the survivors remains unknown.

The people of New Earth have decided to reach out into space and colonise its immediate Solar System. But the ultimate goal is to attempt a reunion with Earth.

So you must venture boldly into space, at the same time creating good living conditions for your people on New Earth and the space colonies, protect them from invasion and also refrain from oppression and heavy taxation. It's a delicate balance to maintain.

But you will not be able to achieve this all on your own. You must appoint a team of advisers, who must be paid, to help you.

These advisers fall into four categories: construction (help develop and maintain colony installations); development (create prototype machinery necessary for survival); fighting forces (responsible for the direction of battles); and, finally, the space fleet (which co-ordinates all the movements of space fleet pilots).

Each category has three people to select from, all with different character, experience and ability. Their wage will depend on how good they are. Whether you will be able to afford their services depends on how much money you have. Personally, I had doubts over appointing the fearsome but inexperienced Michael James to be in charge of my fighting forces. But he had a persuasive approach: "Hire me or I will kill." Welcome aboard, Mike!

AGONY AUNTS

These are the selection of advisers at your disposal. Providing you have enough money you can hire the best brains. If cash is a problem, you will have to make do with less talented helpers. But you can fire and hire if you have the means.

From then on it was a matter of planning a coherent strategy and making sure it worked. Luckily, the point and click interface of the game works really well. It's clear and uncomplicated and allows switching between tasks easy and fuss free. It is the decision-making which causes the complications.

The heart of the game is your control room It is here you stand – playing either a male or female central character – surrounded by your helpers, making policy decisions and putting them into action.

The colony building phase of the game is nowhere near as extensive or complex as SimCity. But, building power plants, hospitals, houses, parks, food and medicine "factories", is quite entertainingt.

But you must always remember to carry the people with you. A too-heavy tax burden and poor living conditions will cause a backlash, leading to open rebellion, even your eventual overthrow.

There is quite a novel, if a little annoying, game protection device installed in the game. Every so often there is a "security check" where you have to input a word from the manual. Get it wrong three times and the program quits.

The music is a tedious, uninspiring unmelodic plod, adding nothing to the atmosphere or tension.

Graphically the game is nothing to shout about and, as I have pointed out earlier, a lot of the introductory sequences are little more than black and white sketches. But that's not really what is needed in this style of game.

If you liked Frontier — or indeed any exploration/space/strategy game — and loved the power SimCity gives you, then undoubtedly Reunion should be towards the top of your next buy list.

Reunion is very complex, absorbing and intricate. Always decisions, decisions ...

■ Paul Boughton

It pays to keep in touch with what the people think. Gossip is freely available in this New Earth bar.

Conference time. You are your advisers gather in the control centre.

ALTERNATIVELY

Sim City 2000
Maxis, £39.99
Rated 9, Issue 29
Updated version of the classic "town planning" simulation Sim City, has enormous depth of game play.. From sewers to skyscrapers, from zoos to prisons, this has the lot. It's simply the best simulation around at the moment. State of the art.

Frontier: Elite 2
Gametek, £39.99
Rated 9, Issue 26
Space trading and strategy game par excellence with 100,000,000,000 million star systems to visit, each with between one and 20 planets.

Frontier:Elite 2 is a truly classic game which will last for years.

President in waiting.

BUILDERS

Building a brave new world. This is the "SimCity" phase of the game. Clicking on a particular building accesses its facts and figures and enables you to build or demolish.

TECHSPEC

7 RATING

Great gameplay and value for money.

Publisher:	Grandslam
Price:	£29.99
Contact:	(081) 688 7533
Minimum PC:	386, MS-DOS, Windows 3.1
Minimum memory:	586K free RAM, 256K expanded memory, 22Mb on harddisk
Minimum graphics:	VGA
Sound:	Ultrasound, Ad Lib, Sound Blaster

Castle Pines Golf Club
(Links Championship Course)

Time to don the loudest pair of trousers you can unearth, plus your Grandad's soft pink sweater and get right on into the swing of things at the 18th hole.

Castles Pines Golf Club was opened in 1981, the realisation of an 11-year dream of Jack Vickers to create a world class course near Castle Rock, Colorado. Its setting is certainly spectacular — 5,000 acres of pine-clad land at a height of 1,000 feet just south of Denver. Vickers enlisted the genius of Jack Nicklaus as the course architect.

In 1986 Castle Pines was selected to host The International, part of the PGA Tour, which attracted golfers from all over the world. It is, in fact, the longest course on the Tour. Now you can play the course providing you have one of the following three programs — Links, Links 386 Pro and MicroSoft Golf.

Those who have these games will know exactly how the game plays. It's a visual delight. The programmers go into exacting detail. Course plans, topographical maps, video footage, and photographs are all used. The result is thoroughly enjoyable.

The course opens with a 644 yard par five downhill hole (the PGA Tour's longest, apparently); the 477 yard uphill fifth is allegedly the most difficult; and the 18th has typically 'menacing' Nicklaus bunkers. Even if you're not familiar with Links itself, you'll pick up the control fairly quickly: the control interfaces in most golf games are remarkably similar.

The only slight annoyance is the constant re-drawing of the screen, which somewhat disrupts the flow of the game. However, there are now over a dozen Links add-on courses, and you could argue that The Belfry is more interesting for European players, and Mauna Kea or Banff Springs more scenic. But if you're after a new golfing challenge, Castle Pines won't disappoint you.

■ **Paul Boughton**

Once the course is up and running, it's just dear old Links, of course, gorgeous digitised graphics and all.

· TECHSPEC ·

Minimum PC:	386SX (33MHz recommended)
Minimum memory:	2Mb (8Mb recommended)
Minimum graphics:	SVGA
Sound:	Ad Lib, Sound Blaster and Pro
Publisher:	Access/US Gold
Price:	£24.99
Contact:	(021) 625 3366

RATING 7

Breakline

· TECHSPEC ·

Minimum PC:	386 , DOS 3.3, mouse
Minimum memory:	2Mb
Minimum graphics:	VESA-compatible SVGA
Sound:	Sound Blaster, Gravis UltraSound
Publisher:	Mindscape
Price:	£24.99
Contact:	(0444) 246333

RATING 4

For 'Breakline' read 'Breakout'. Though the instruction manual tries to deny it with its madly-authored tale of smashing the evil trader's empire with your torpedo-deflecting spaceship and the gameplay is tarted up with unintelligible runic balderdash, this is simply an update of Atari's elderly bat/ball/bricks game. Just clear a screen full of bricks by hitting them with a ball which bounces off the bat at the bottom of the screen. Your mouse controls the bat, and if you let the ball fall off the bottom of the screen you lose a life.

In these enlightened times, though, you'd expect more than that, especially from a game that demands 2Mb of RAM, 1.5Mb of hard disk space and SVGA graphics. So as well as the unfathomable rune stuff Breakline gives you 100 convoluted courses of gullies, warps and ramps, surrounded by various brands of bricks, some of which crumble after one collision, most of which take two or three. And as well as being able to rebound the 'plasma spheres' your 'spaceship' can launch its own (guided, unstoppable or which split into six balls) from the cannons mounted on each 'wing'. There are other little wrinkles, such as special tiles which warp your ball's trajectory and the ability to buy other weapons as you progress.

I've a feeling I'm making Breakline sound more exciting than it actually is, and no doubt you have visions of something like Taito's Arkanoid coin-op in your head, but Breakline isn't half as interesting.

Breakline is actually a Breakout update, which means it should have been much better than this.

The normal game starts off very slow, so after five screens or so, you'll be dozing off or sitting there with glazed eyes, drooling aimlessly into your keyboard. Trying out the higher levels in the program's training mode isn't much better because you always seem to spend ages trying to hit the very last brick.

OK, so nearly all Breakout-style games suffer from this, but Breakline's twisty-turny layouts augment the problem — until you press the Reset button.

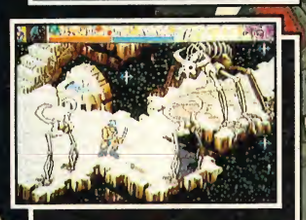
Much as I hate to twist the knife i n the wound, I must also report that Breakline's SVGA graphics caused my graphics card some confusion, and even though the VESA driver included correctly identified it as a Trident 8900C, flickering garbage pixels filled the bottom two inches of my screen throughout the game. Fortunately they didn't interfere with the action, but it certainly didn't earn Breakline any extra Brownie points.

■ **Paul Glancey**

And so it was that during the age of Ragnarok, Heimdall, beloved of the Gods, came to Earth from Valhalla to find the pieces of a Sacred Amulet - the power of which would banish the evil Loki from the viking lands.

It came to pass that Heimdall's quest was revealed in the mighty saga that is....

Heimdall 2



THE 8TH DAY

CORE DESIGN LIMITED

COMMODORE AMIGA (1 MEG ONLY)
AVAILABLE FOR PC + COMPATIBLES
AMIGA CD32

CORE DESIGN LIMITED TRADEWINDS HOUSE 69/71A ASHBOURNE ROAD DERBY DE22 3FS TEL: (0332) 297797 FAX: (0332) 381551

Huge Savings from

Boots

WH SMITH

Lemmings™

SAVE

£29.99
R.R.P. ~~£55.98~~
Lemmings 1+2 - Amiga
in one pack

£14.99
R.R.P. ~~£25.99~~
Lemmings 1 - Amiga

SAVE

£19.99
R.R.P. ~~£34.99~~
Lemmings 1 - PC

£34.99
R.R.P. ~~£74.98~~
Lemmings 1+2 - PC
in one pack

Boots

WH SMITH

Available in larger Boots Stores and main W H Smith computer games stockists

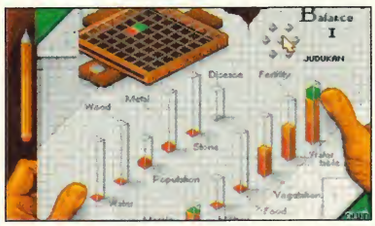
Other Lemmings packs available

Genesia

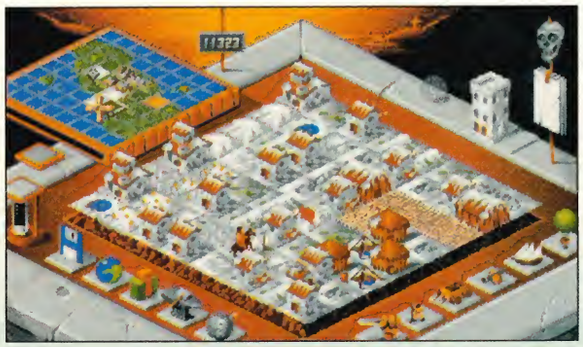
The latest game for omnipotent beings.

Genesia will be released on CD-ROM in June priced £39.99

Genesia is a French-designed isometric God Sim which bears more than a passing resemblance to Populous and Powermonger. It borrows heavily from other sources as well, but it mixes up all the ingredients engagingly enough and boasts some original touches too. You start the basic game controlling one underdeveloped and underpopulated land. You have two opponents in the same position, and your first priority is to build up your power-base. Ultimately your land can support up to 96 inhabitants, but you start out with only four or five. Your immediate task is to select occupations for them.



There are various charts to keep you informed of the state of play on your lands. If you sink too many wells or chop down too many trees you could cause an ecological disaster.



The seasons play a big part in Genesia. You can't perform outdoor functions like farming during winter, but if you build a workshop you can employ all spare hands in inventing or building.

Obviously you'll need food so you'd better make at least one of them a farmer. A farmer needs a field, so click on the relevant menu and give him one. Unfortunately excess production will be lost, so it's vital to make one settler an architect and instruct him to build a warehouse, where you can also store other raw materials, such as wood.

The key to the game is the way you employ your architects. Leave them to their own devices and they'll automatically build houses, but if they use up all your raw materials you won't be able to build the bigger constructions vital to winning. These include a drill, to mine stone and metal, a barracks, needed to raise armies, and a workshop, which is the only location from which your inventors and blacksmiths can operate.

The inventors play a crucial part. At the beginning you know nothing, and only by investing in research can you acquire crucial technologies. Many of these have military applications, such as metal-working which leads on to swords and armour, but it's dangerous to ignore the more peaceful advances, like medicine – sick workers don't produce anything.

When you've got your first community thriving you can expand on to neighbouring lands, or, if you're feeling strong enough, send out an army to duff up the opposition. You can also scour the countryside for the jewels of Neort.

The jewels of what? Well may you ask. Unfortunately Genesia isn't just a strategy game, it's also a fantasy game, and it comes complete with a tedious sub-plot, which I really can't be bothered to go into. Suffice to say that there are seven of these sacred jewels scattered about, you need to build a temple in which to keep them, and if you succeed in nabbing all seven you win the game. Despite this, you'd be well advised to forget all about them.

It's much easier, you see, to win the game by defeating your two opponents, and if you can emerge victorious without possessing a single jewel why waste the expense and effort in looking for them?

> "The artificial intelligence, alas, isn't going to win any prizes from Mensa."

There's another equally annoying factor too – the artificial intelligence. Playing only at advanced level, I've found that every time I start badly and the opposition races ahead of me, developing their lands into prosperous teeming conurbations while my pitiful handful of sims eke out a miserable diseased existence in scattered mud huts, I still win. The computer opponents just haven't a clue what to do with their massive advantage, and you don't need to be a brilliant strategist to run rings round them. Fortunately there are two and even three player options, but it's a great pity the computer can't give you a better game.

The AI is bad, the interface crude, the scrolling inaccurate, the graphics poor, the manual clumsily written ... I ought really to be giving this a lousy mark, but despite all these reservations I've really enjoyed playing Genesia. It's almost an excellent game, and if you can find at least one human opponent to pit your wits against I'd recommend it.

■ **Simon Shaw**

Quirky and fun but won't tax your brain.

TECHSPEC 6 RATING

Publisher:	Mindscape
Price:	£34.99
Contact:	(0444) 246333
Minimum PC:	286, mouse
Minimum memory:	640K
Minimum graphics:	VGA
Sound:	Ad-Lib, Sound Blaster

Ravenloft: Strahd's Possession

SSI's follow-up to the Eye of the Beholder series has a brand new game engine, but have we seen it all before?

The CD version features digitised speech.

With the release of Ravenloft, SSI is attempting to combine technical quality with an in-depth role-playing experience. Although Ravenloft begins with a conventional enough introductory yarn about destroying the evil Strahd von Zarovich and escaping this benighted world, once you begin the game you may notice some differences.

The character generator is where the fun begins. You can either create your own characters or use the computer-generated predefined heroes.

Raven mad

Once you've selected your characters it's time for action. It's a good idea to read the manual quite thoroughly beforehand, since there are some fine points about spell-casting, weapon use, exploration and object manipulation which aren't immediately obvious. As you progress you also discover it's wise to save the game often, at least until you've got into a rhythm of generating protective and combative spells, using your firepower to defeat enemies and resting when you can.

The interface is similar to that found in the Ultima Underworld series. Movement is controlled either by using a panel of direction arrows at the foot of the screen, or by clicking on the appropriate direction in the game window itself. One minor irritation is that you can't look up or down – something which greatly added to the atmosphere in the Ultima games.

> "SSI is attempting to combine technical quality with an in-depth role-playing experience."

The direction controls are flexible enough, although there are times at the beginning of the action when you can easily click on the wrong mouse button and do something stupid, such as throwing away an object you've just picked up. Also, there are plenty of areas in the game where you get stuck behind a clump of trees or other objects when the graphics indicate you should be able to pass. The search for the perfect interface still goes on ...

Apart from the main game screen with its sizeable first-person 3D viewing window, there is only one other major screen in Ravenloft: the inventory. This is impressively designed, capably balancing detailed information

ALTERNATIVELY

Ultima Underworld II
Origin, £39.99
Rated 8, Issue 18
The original Underworld introduced a new wave of atmospheric first-person 3D RPGs, with superb graphics and sound and a wide variety of monsters, objects, magic and missions. This sequel proved even better, with a much larger and more varied playing area and significant technical improvements. Both games in the series are more compact, interesting and exciting than Ravenloft.

Shadowcaster
Origin, £44.99
Rated 7, Issue 27
If you're looking for something a little lighter than Ravenloft, Shadowcaster is ideal. With only a tenuous role-playing element and the emphasis firmly on combat, this is a 3D game very much in the Wolfenstein mould. There are few puzzles and no character interaction, so it can get monotonous after a while, but it's a good introduction to RPGs without any of the hassle.

Above: Zombies are the reanimated, rotting remains of dead humans. They can be dangerous, but this one seems 'armless (sorry).

Opposite page, left: Like zombies, skeletons are undead, but are usually quick and are nearly always armed. They can be very difficult to kill.

Opposite page, right: Doom guards are really no more than suits of armour which have been enchanted, serving as guards for powerful mages.

with ease-of-use. Most information is only a couple of mouse-clicks away, and the designers have managed to cram four characters' inventories, their statistics and their magical abilities all on to one screen – no mean feat. The main drawback is in using certain objects, such as potions. To drink a potion, you need to place it in the character's 'action' hand on the inventory screen, return to the main game screen, then activate the hand containing the potion. It's slightly clumsy, and not very useful in the heat of battle.

Automapping for the people

A much better feature is the automapper, which allows you to make your own notes and can be saved and printed. It is also very useful in helping you locate the masses of objects in the game. A stretch of land which appears to contain nothing of interest could be deceptive: consult the map and you may find several objects.

The mapper is typical of Ravenloft's attention to detail, and its variety. This is nowhere more evident than in the wide range of monsters ready to annihilate your party, and in the large number of weapons and spells available to defeat them. There are 33 different kinds of monster in all, from the simple wolf-like Worgs to creatures such as the Ghoul Lord. This super-ghoul feasts on living flesh, attacks with bites and scratches, causes paralysis and inflicts a horrific rotting disease. Not someone to be stuck in a lift with.

The weapons used to defeat these foes include traditional swords and daggers (with a few interesting variants), axes, maces, bows and arrows, slings and stones, and so on. As a group they are much less interesting than the spells, of which there are over 60 spread through six experience levels. All have their own, usually interesting, graphical effects and many of the higher class spells are extremely powerful. Naturally, only mages and priests can wield magic.

Ravenloft isn't all about monsters and combat however – there are many friendly and neutral non-player characters (NPCs) around, too. It's easy to engage NPCs in conversation: click on the character in the viewing window and you're usually presented with a choice of a couple of questions or responses. It isn't a particularly sophisticated system, but there are so many characters providing so much information that it doesn't need to be. Some NPCs will even join your initial band of two, if asked politely.

> "It's all pretty unoriginal but fun nonetheless, and there are one or two novel surprises in store."

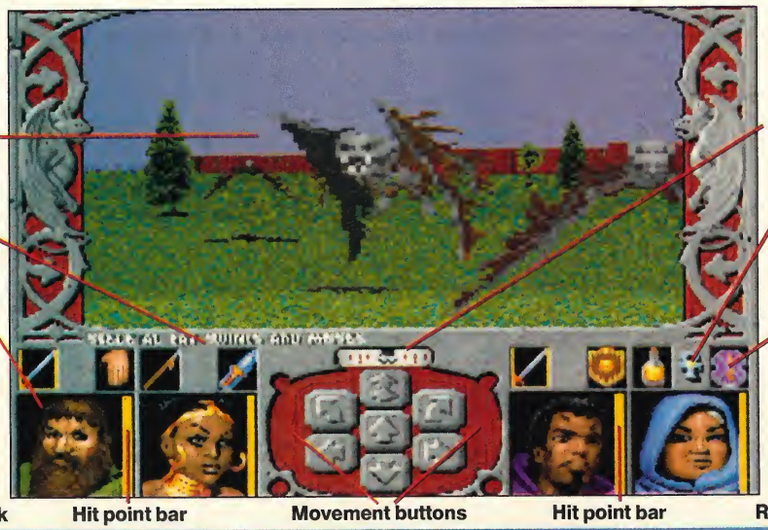
Apart from encounters with monsters and NPCs, Ravenloft is packed with traditional door-opening puzzles (press the switch/find the key to open the entrance), missions (retrieve an object to gain a favour) and problems (complete a puzzle to pass further into the game). As you would expect, these begin easily enough but develop into quite complex sequences the further you get. It's all pretty unoriginal but fun nonetheless, and there are one or two novel surprises in store.

All of these elements are reinforced by good quality graphics and sound. The musical accompaniment is among the best I've heard in an RPG – nothing spectacular, just a good, atmospheric background to the game. Ravenloft is a pretty good game. It's large, packed with detail, and will provide anyone interested in RPGs with a solid and interesting challenge.

The only major fault I found was a lack of originality. But if originality isn't a concern and you're looking for something which will give you hours of enjoyment, then Ravenloft will provide you with a completely professional, polished role-playing experience.

■ **Gordon Houghton**

THE ADVENTURE SCREEN



TECHSPEC 7 RATING

Unoriginal, but jolly good fun anyway.

Publisher:	SSI/US Gold
Price:	£45.99 disk/CD
Contact:	(021) 625 3388
Minimum PC:	486, MS-Dos 5.0
Minimum memory:	4Mb RAM, 21Mb Hard disk
Minimum graphics:	VGA
Sound:	Ad-Lib, Sound Blaster, Roland

A division of ***SOFTWARE PLUS,*** *Britain's largest independent specialist retailer of computer games.*

SOFTWARE FIRST

Established 1981

PC

1942 * ..... CALL
3D Pool ..... £ 9.99
4D Sports Boxing ..... £ 9.99
688 Attack Sub ..... £ 12.99
A Train ..... £ 12.99
Across the Rhine * ..... CALL
Aces over Europe ..... £ 29.99
Alien Breed ..... £ 19.99
Alone in the Dark ..... £ 17.99
Alone in the Dark 2 ..... £ 29.99
Amazon Queen * ..... CALL
Another World ..... £ 11.99
Arcade Pool * ..... CALL
Armour Geddon ..... £ 12.99
Award Winners Gold Edition ..... £ 22.99
Battledrome - Metal Tech * ..... CALL
Beneath a Steel Sky ..... £ 25.99
Birds of Prey ..... £ 11.99
Bloodnet * ..... CALL
Body Blows ..... £ 19.99
Brutal Sports Football ..... £ 16.99
Campaign 2 ..... £ 19.99
Cannon Fodder * ..... £ 23.99
Captive ..... £ 9.99
Captive 2 * ..... CALL
Carriers at War 2 ..... £ 29.99
Castles ..... £ 14.99
Castles Data Disk ..... £ 7.99
Championship Manager 93 ..... £ 12.99
Championship Manager 94 DD ..... £ 7.99
Championship Manager Italia ..... £ 19.99
Chaos Engine * ..... CALL
Chessmaster 3000 Windows ..... £ 16.99
Chessmaster 4000 Windows ..... £ 22.99
Civilization ..... £ 26.99
Colonels Bequest ..... £ 14.99
Colossus Chess X ..... £ 6.99
Colossus Compliation ..... £ 14.99
Comanche Mission Over the Edge ..... £ 16.99
Cruise for a Corpse ..... £ 11.99
D Generation ..... £ 12.99
Daughter of the Serpents ..... £ 14.99
David Leadbetters Golf ..... £ 13.99
Day of the Tentacle ..... £ 28.99
Delta 5 * ..... £ 28.99
Deluxe Strip Poker ..... £ 7.99
Deluxe Trivial Pursuit ..... £ 14.99
Desert Strike * ..... CALL
Dune 2 ..... £ 23.99
Elder Scrolls Arena ..... £ 29.99
European Champions * ..... CALL
Evasive Action ..... £ 22.99
Eye of the Beholder ..... £ 13.99
F1 ..... £ 19.99
F14 Fleet Defender ..... £ 28.99
F29 ..... £ 11.99
Fantastic Dizzy * ..... CALL
Fantasy Empires ..... £ 23.99
Fantasy World Dizzy ..... £ 7.99
Fields of Glory ..... £ 29.99
Flashback ..... £ 25.99
Frontier Elite 2 ..... £ 25.99
Fury of the Furries ..... £ 14.99
Gabriel Knight ..... £ 26.99
Gamepak 3 ..... £ 19.99
Gateway ..... £ 12.99
Gateway 2 * ..... CALL
Global Effect ..... £ 14.99
Greatest ..... £ 31.99
Hand of Fate ..... £ 31.99
Heimdall 2 * ..... CALL
Hero Quest Plus Data Disk ..... £ 9.99
Hired Guns ..... £ 26.99
Hoyle Book of Games Vol 1 ..... £ 12.99
Hoyle Book of Games Vol 2 ..... £ 12.99
In Extremis ..... £ 24.99
Inca 2 * ..... CALL
Indiana Jones Atlantis Adv ..... £ 24.99
Indy Car Racing ..... £ 28.99
Indy Last Crusade Graphic ..... £ 14.99
International Soccer ..... £ 14.99
Ishar Legend of the Fortress ..... £ 9.99
Ishar 2 ..... 12.99
Ishar 3 * ..... CALL
James Pond 2 Robocod ..... £ 16.99
Jigsaw Pinups ..... £ 9.99
Jungle Strike * ..... CALL
Kids Rule OK ..... £ 14.99
Kingmaker ..... £ 24.99
Knights of the Sky ..... £ 12.99
Legends of Valour ..... £ 14.99
Leisure Suit Larry 1 ..... £ 11.99
Leisure Suit Larry 2 ..... £ 11.99

THIS MONTH'S SPECIAL OFFERS

CYBERRACE £19.99
HARDBALL 3 ..... £14.99
KINGS QUEST 5 ..... £19.99
MAVIS BEACON TEACHES TYPING £12.99
STAR WARS CHESS £29.99

Leisure Suit Larry 6 ..... £ 26.99
Lemmings ..... £ 14.99
Lemmings/Sim City Dbl Pack ..... £ 20.99
Lemmings 2 the Tribes ..... £ 19.99
Links 386 ..... £ 29.99
Links Belfry Course ..... £ 16.99
Links Castle Pines ..... £ 16.99
Links Challenge ..... £ 12.99
Links Mauna Key ..... £ 16.99
Links Pebble Beach ..... £ 16.99
Litil Divil ..... £ 26.99
Lombard RAC Rally ..... £ 9.99
Lotus Ultimate Challenge ..... £ 14.99
Lure of the Temptress ..... £ 11.99
Manchester United Premier League * ..... CALL
Maniac Mansion ..... £ 10.99
Master of Orion ..... £ 29.99
Micro Machines * ..... £ 19.99
Microprose Grand Prix ..... £ 42.99
Microsoft Flight Sim 5 ..... £ 28.99
Microsoft New York ..... £ 15.99
Microsoft Paris ..... £ 13.99
Mig 29M Super Fulcrum ..... £ 11.99
Monkey Island 2 ..... £ 23.99
MoonstoKings Qne ..... £ 9.99
Mortal kombat ..... £ 20.99
NFL Football ..... £ 25.99
Overdrive * ..... CALL
Pagan Ultima 8 ..... £ 32.99
Pagan Ultima 8 Speech Pack ..... £ 13.99
Pinball Fantasies ..... £ 25.99
Pinball Magic ..... £ 7.99
Pirates ..... £ 12.99
Pirates Gold ..... £ 25.99
Police Quest 1 ..... £ 12.99
Police Quest 2 ..... £ 14.99
Powergame 2 ..... £ 24.99
Powermonger ..... £ 11.99
Premier Manager ..... £ 12.99
Premier Manager 2 ..... £ 22.99
Prince of Persia ..... £ 10.99
Privateer ..... £ 34.99
Privateer Righteous Fire ..... £ 15.99
Pro Tennis Tour 2 ..... £ 12.99
Push Over ..... £ 10.99
Quest For Glory 1 ..... £ 13.99
Ragnarok ..... £ 19.99
Raiden * ..... CALL
Rally ..... £ 22.99
Red Hell * ..... CALL
Return to Zork ..... £ 30.99
Reunion * ..... CALL
Robinsons Requiem * ..... CALL
Robocop 3 ..... £ 12.99
Rome AD92 ..... £ 16.99
Sam & Max Hit the Road ..... £ 28.99
Scrabble ..... £ 20.99
Secret of Monkey Island ..... £ 12.99
Sensible Soccer 92/93 ..... £ 21.99
Shuttle ..... £ 14.99
Silent Service 2 ..... £ 12.99
Silverball ..... £ 19.99
Sim City 2000 ..... £ 26.99
Sim City Classic ..... £ 11.99
Sim City Deluxe ..... £ 22.99
Sim Earth ..... £ 13.99
Sim Life ..... £ 9.99
Space Quest 2 ..... £ 12.99
Spear of Destiny ..... £ 11.99
Speedball 2 ..... £ 11.99
SSN21 Seawolf ..... £ 29.99
Star Trek ..... £ 23.99
Star Trek 2 Judgement Rites ..... £ 28.99
Star Trek Next Generation * ..... CALL
Starlord ..... £ 29.99
Strategy Masters ..... £ 12.99
Street Fighter 2 ..... £ 19.99
Strike 2 ..... £ 14.99
Strike Commander ..... £ 32.99
Strike Squad ..... £ 27.99
Striker ..... £ 19.99
Subwar 2050 ..... £ 29.99
Super All Stars Collection (Codemasters) * ..... CALL
Super Space Invaders ..... £ 8.99
Syndicate ..... £ 29.99
Syndicate Data Disk ..... £ 13.99
Task Force 1942 ..... £ 24.99
Termninator Rampage ..... £ 26.99
TFX ..... £ 29.99
Thunderhawk ..... £ 9.99
Transarctica ..... £ 9.99
Trolls ..... £ 17.99
UFO ..... £ 28.99
Ultima 6 ..... £ 12.99
Unnecessary Roughness ..... £ 26.99
Utopia ..... £ 11.99
Werewolf KA-50 * ..... £ 25.99
Wing Commander ..... £ 11.99
Winter Challenge ..... £ 12.99
Winter Gold ..... £ 12.99
Winter Olympics ..... £ 25.99
Wizard * ..... CALL
Wizkidd ..... £ 12.99
Wolfenstein 3D ..... £ 13.99
World Class Leaderboard Series ..... £ 10.99
World Cup USA 94 * ..... CALL
Worlds of Legends ..... £ 14.99
X Wing ..... £ 30.99
X Wing Mission Disk Imperial ..... £ 13.99
X Wing Data Disk B Wing ..... £ 13.99
Zool ..... £ 12.99

PC ROM

10 Year Anthology ..... £ 35.99
Battle Isle 2 ..... £ 32.99
Beneath a Steel Sky * ..... £ 31.99
Bloodnet * ..... £ 28.99
Central intelligence * ..... CALL
Comanche ..... £ 32.99
Comptons Interactive Encyclopedia .. £ 105.99
Day of the Tentacle ..... £ 30.99
Diggers * ..... CALL
Dracula Unleashed * ..... £ 30.99
Dragonsphere ..... £ 27.99
Dune / 7th Guest ..... £ 49.99
Frontier Elite 2 ..... £ 39.99
Gabriel Knight * ..... £ 28.99
Inferno * ..... CALL
Iron Helix ..... £ 27.99
Lawnmower Man ..... £ 36.99
Leisure Suit Larry 6 * ..... £ 28.99
Litil Divil * ..... CALL
Lost Files of Sherlock Holmes * ..... CALL
Maniac Sports * ..... CALL
Megarace ..... £ 26.99
Microcosm ..... £ 40.99
Out Post * ..... £ 31.99
Pagan Ultima 8 & Speech Pack ..... £ 44.99
Police Quest 4 * ..... £ 28.99
Quest for Glory 4 * ..... CALL
Ravenloft * ..... £ 31.99
Rebel Assault ..... £ 32.99
Sam & Max * ..... £ 28.99
Star Trek * ..... £ 32.99
Star Trek Next Generation * ..... CALL
Strike Commander ..... £ 32.99
Summer / Winter Challenge ..... £ 19.99
Syndicate Plus * ..... CALL
TFX ..... £ 32.99
Tornado ..... £ 32.99
UFO * ..... CALL
Winter / Summer Olympics * ..... CALL
Xanth * ..... CALL

PC BUSINESS

1st Design for Windows ..... £ 39.99
1st Press for Windows ..... £ 39.99
Creative Writer ..... £ 36.99
Mavis Beacon ver 2 ..... £ 25.99
MS Dos 6.2 ..... £ 58.99
Sage Moneywise ..... £ 29.99
Sage Moneywise Invoicing ..... £ 34.99

PC ACCESSORIES

Quickjoy Game Card 9.99
Quickshot Warrior 5 ..... 11.99
Quickshot Python 5 ..... £ 10.99
Quickshot Starfighter 5 ..... 10.99
Quickshot Super Warrior ..... £ 18.99
Logic 3 Tornado ..... £ 13.99
Speedmouse 2 Logic 3 ..... £ 14.99
3.5 "Disk Box holds 40 ..... £ 4.99
3.5 "Disk Box holds 80 ..... £ 6.99
Unbranded 3.5" blank disks x 10 ..... £ 5.99
Zydec HD Disks 10 ..... 9.99
Mouse Mat ..... £ 1.99

Tel: 0268 725500
Fax: 0268 590076

Telephone Orders:
10am - 7pm Mon - Fri, 10am - 4pm Sat - Sun.
Answering Service at all other times.

Callers by appointment only.
All prices include VAT & Postage for UK Mainland. Add £2.00 to postage price for Europe and £3.00 for rest of the world. Next day service available £3.70. Please send Cheques / PO's payable to:
SOFTWARE FIRST, 8 BUCKWINS SQUARE, BASILDON, ESSEX SS13 1BJ.
Please allow sufficient time for cheque clearance. Credit cards are not charged until day of despatch.
Please state make and model of computer when ordering.
If you can't see what you want please call, new stock arrives daily.
Some titles may not be released at time of going to press.
We supply only official UK product. Formats supported include Amiga, PC, ST, Master System, Megadrive and Game Gear.
All prices subject to change without notice. All items subject to availability. E & OE.

Name _____
Address _____
_____
Postcode _____ Telephone _____
ITEM _____ PRICE _____
ITEM _____ PRICE _____
ITEM _____ PRICE _____
POSTAGE _____
TOTAL _____

I enclose a cheque/PO made payable to **Software First** or please debit my Access/Visa:

Expiry Date: ____

Signature _____ A2

AEGIS: Guardian of the Fleet

Aegis is a modern naval simulation which puts you in command of a US Ticonderoga class cruiser, equipped with all the latest in shiney, new hi-tech gadgetry.

I gather that this is a real class of ship, this Ticonderoga, but some of the allegedly historical scenarios are weird to say the least – in the first game for example, you get the chance to sink some Argentines during the Falklands War. Correct me if I'm wrong, but when were the Americans ever involved in the Falklands conflict? They must watch different newsreels over there.

Despite this, Aegis is pretty good, featuring fine graphics (I like the little digitised clips of missile launches), atmospheric sound and a fair variety of gameplay. That said, it lacks the depth of a game like Great Naval Battles II (which is reviewed over on page 64).

Curiously, it plays much more like a submarine than a surface sim. This is because engagement ranges are so huge in modern warfare that you simply never have the opportunity to make visual contact. Instead you peer earnestly at your sonar and radar displays and launch long-range missiles at invisible targets. This is all good clean fun, but you don't get a real sense of being there.

The Aegis style is a little on the abstract side.

· TECHSPEC ·

Minimum PC:	486SX, 25 MHz
Minimum memory:	4Mb, 20Mb hard disk space
Minimum graphics:	SVGA
Sound:	Sound Blaster and compatibles
Publisher:	Time Warner
Price:	£49.99
Contact:	(0604) 790785

RATING 7

I found Aegis pleasantly diverting, but I have one major gripe: can somebody please tell me what is the justification of issuing a CD-ROM game which requires a massive 20MB of your hard disk space before it will run? If it turns out that this is what CD-ROM is all about, I for one am not going to want to know.

■ **Simon Shaw**

SPACESHIP WARLOCK

This game was a big success when released on the Apple Macintosh, but then, when it comes to games, most Mac users don't have that great a choice of games to play on their machines, do they? Indeed, Spaceship Warlock scores highly in all the areas that the Mac itself excels: slick presentation, an easy interface, crisp graphics and it makes a nice noise ... it's in the gameplay that it lets itself down.

The plot is so formulaic that it could have been written by a committee. As a graphic adventure, it has some token alien-bashing (literally: you need thump the alien a number of times in the eye), it has token puzzles (there's a radiation leak on the space craft? Root around until you find some anti-radiation pills locked in a cupboard), it has a token maze (complete with a map so that you needn't actually get lost), and a token love interest (in the shape of the fair Stella). As a textbook lesson in 'elements of the computer adventure' you couldn't do better than Spaceship Warlock.

The premise is that in the future we'll all be living in space, and the human race will be under subjugation to a powerful alien Kroll race. You need to get out of dreary Stambul City – indeed, off the dreary planet Stambul and into space in order to defeat the Kroll and free mankind.

The manual is surprisingly coy about telling you the plot, but it doesn't really matter. Spaceship Warlock is entirely linear; there is only one correct action to perform at any one time to advance the story and everything needs to be done in the right order. In fact, there are very few red herrings at all. And just in case you do get stuck, there's a fairly comprehensive set of hints in the manual. Warlock was evidently designed as an adventure to be enjoyed all the way through and quite quickly, rather than as a stiff challenge.

The game is certainly highly polished in presentation and the slightly overwrought sound effects are effective (I spent an entire evening with the cod-operatic introductory song drumming incessantly through my brain, so it hasn't left me entirely cold). It may be all very awe-inspiring for the games greenhorns with an Apple Macintosh, but for PC sophisticates experienced in the ways of Sam and Max or the Tentacle talkie, or even 7th Guest, it will probably prove just a bit too narrow in scope.

■ **Christina Erskine**

· TECHSPEC ·

Minimum PC:	386, CD-ROM drive, mouse
Minimum memory:	560K
Minimum graphics:	VGA
Sound:	Sound Blaster
Publisher:	Ubi Soft
Price:	£44.99
Contact:	(081) 343 9055

RATING 5

SPECIAL PC REVIEW READERS OFFER

GET SWITCHED ON TO THESE PRICES

MAKE SURE YOU GET THE VERY BEST OUT OF YOUR PC WITH THE UNBEATABLE PRICES ON THESE GREAT PC REVIEW OFFERS

RING THE SPECIAL HOTLINE NOW!

0500 600 486

GRAVIS ANALOGUE JOYSTICK
PC Review Special Price Only £26.50

NEC 3Xi CD ROM DRIVE WITH ISA KIT.
- Triple speed internal drive.
- MPC I & II formats.
- New loading mechanism.
- 256K cache.
- 195ms access time

PC Review Special Price Only £399.00

ORCHID SOUNDWAVE 32 SOUND BOARD.
- Includes Windows Sound System,speakers and bundled software.
- True 16-bit stereo using Roland chip set.
- Supports Mitsumi and Sony CD ROM drives

PC Review Special Price Only £175.00

DRACULA UNLEASHED CD
PC Review Special Price Only £26.50

TO ORDER: simply complete the form below, enclose payment if applicable, and send off to : PC Review Special Offer, Powermark plc, Premier House, 112 Station Road, Edgeware, Middlesex HA8 YAQ. Alternatively call the credit card hotline (free phone) on 0500-600- 486 quoting PC Review offer. OFFER CLOSING DATE : 15TH JUNE 1994

- HUGE STOCKS

Guaranteed same day despatch on virtually all orders placed even up to 5.30pm.

- 14 DAY MONEY BACK GUARANTEE

Items must be returned (with a returns number from Powermark Customer Service) in "as new" condition for a full refund (excluding carriage).Not valid for opened floppy disk based software.

- PERSONAL CALLERS VERY WELCOME

Save on delivery charges - there's plenty of parking. Telephone first to check our stock position on the items you want. We're also open on Saturdays from 9.30am to 4.00pm.

Powermark plc is registered for the supply of computer, printer and workstation memory, processor and other upgrades.

Powermark plc is regularly assessed by the British Standard Institute to ensure compliance with the quality standard.

PLEASE NOTE THAT PRICES ARE INCLUSIVE OF VAT BUT DO NOT INCLUDE DELIVERY.

DELIVERY CHARGES

UK Mainland: Next working day courier delivery to your door: only £7 per order (£5 per CD ROM software order.

Europe 2 day delivery to your door

PC REVIEW / POWERMARK SPECIAL OFFER

To : PC Review Special Offer, Powermark, 112 Station Rd, Edgeware, Middlesex HA8 7AQ.

I enclose a cheque for £..... payable to Powermark plc (Please write your guarantee card number on the reverse of cheque)
Or debit my Mastercard / Visa:

PLEASE RUSH ME:	QTY	DESCRIPTION	PRICE
		Orchid Soundwave 32	£
		NEC 3Xi + ISA kit	£
		Dracula Unleashed CD	£
		Gravis Analogue Joystick	£
		+ carriage cost £ 5.00/7.00	
		TOTAL	

Expires ...../.....

Name.....

Address.....

.....

.....

Telephone.....Postcode.....

My computer is a .....

☐ Tick here if you do not wish to receive any information that Powermark feels may be of interest to you.

Power Mark®

"Powermark plc are the largest direct seller of multimedia and memory for PC's in the United Kingdom. The company leads the growth and availability of all multimedia products. They carry large and varied stocks of video and sound boards, CD ROM drives and software, interfaces, speakers and joysticks. Next day delivery of their stock range is available.

486 PC SCOOP PURCHASE!

AMBRA PCs
MADE BY IBM

SPECIFICATIONS

- **Desktop - Intel 80486SX 25MHz**
  Mini Tower - Intel 80486DX 33MHz
  Intel 80486DX2 66MHz
- **CPUs fully upgradeable through 486 Series and Overdrive processors**
- **Pentium Technology Ready**
- **240Mb IDE Hard Drive**
  Drive capacity can be increased using the MS DOS 6 DoubleSpace
- **14" S-VGA .28mm MPRII (Low Radiation)**
- **4Mb RAM (Max 36Mb Desktop, 32Mb Tower)**
  RAM expandable using industry standard 1Mb, 4Mb and 16Mb 32-bit 72-pin SIMMs
- **8K Integral on Chip Cache RAM**
- **External Cache**
  Desktop - Optional Upgrade to 64K, 128K or 256K
  Mini Tower - 128K Standard (256K Max)

FREE SOFTWARE

MS DOS V6
WINDOWS V3.1
WORKS FOR WINDOWS V3
- WORD PROCESSOR
- SPREADSHEET
- DATABASE
- COMMUNICATIONS
- GRAPHICS

WITH ALL MODELS

- **3½" 1.44Mb Floppy Disk Drive**
- **Expansion Slots**
  Desktop - 3 FREE 16-bit 'ISA' Slots
  Mini Tower - 5 FREE 16-bit 'ISA' Slots
  1 FREE VESA Local Bus Slot
- **Drive Bays**
  Desktop - 1 FREE 5¼" Half Height
  Mini Tower - 3 FREE 2x5¼" Half Height 1x3½"
- **Fast VESA Local Bus Graphics**
  With CIRRUS Logic Windows Accelerator
  Desktop - GD-5424
  Mini Tower - GD-5428
- **Video RAM**
  Desktop - 512K (256 colours at 800x600) upgradeable to 1Mb
  Mini Tower - 1Mb (256 colours at 1024x768)
- **Small Footprint**
  Desktop - 351mm(W) x 107mm(H) x 409mm(D)
  Mini Tower - 169mm(W) x 350mm(H) x 422mm(D)
- **2 Serial Ports, 1 Parallel Port, PS/2 Type Keyboard and Mouse Ports**
- **Ergonomic 102 Key PS/2 Type Keyboard**
- **PS/2 Type Mouse + Mat**
- **1 Year On-Site Warranty**
  8 working hour call out

sprinta II DESKTOP PC

THE BEST PRICES FOR THESE SPEC.

VESA Local Bus Graphics on all models

INCLUDES ON-SITE W'TY WITH IBM

FREE! MS DOS 6 WINDOWS 3.1 WORKS FOR WINDOWS 3

intel inside

486SX 25MHz
240Mb HD
4Mb RAM
14" S-VGA
.28mm MPRII MONITOR
WINDOWS ACCELERATOR
VESA LOCAL BUS
3 FREE EXPN SLOTS
1 FREE DRIVE BAY

486SX 25MHz

£799
+VAT = £938.83
Ref: IPC 0424 + MON 0024

FREE DELIVERY IN UK MAINLAND

hurdla mT MINI TOWER PC

OverDrive Pentium Ready

VESA Local Bus Graphics on all models

INCLUDES ON-SITE W'TY WITH IBM

FREE! MS DOS 6 WINDOWS 3.1 WORKS FOR WINDOWS 3

intel inside

486DX/DX2 33/66MHz
240Mb HD
4Mb RAM
14" S-VGA
.28mm MPRII MONITOR
WINDOWS ACCELERATOR
VESA LOCAL BUS
3 FREE EXPN SLOTS
1 FREE DRIVE BAY

486DX 33MHz	486DX2 66MHz
£999	**£1199**
+VAT = £1173.83	+VAT = £1408.83
Ref: IPC 4324 + MON 0024	Ref: IPC 5562 + MON 0024

THE SILICA SERVICE

SILICA 1978 15 YEARS 1993 SERVICE TO YOU

Before you decide when to buy your new computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals or software, or help and advice. And, will the company you buy from contact you with details of new products? At Silica, we ensure that you will have nothing to worry about. With our unrivalled experience and expertise, we can meet our customers' requirements with an understanding which is second to none. Complete and return the coupon now for our latest FREE literature and begin to experience the "Silica Service".

- ***FREE OVERNIGHT DELIVERY:***
  On all hardware orders shipped in the UK mainland (there is a small charge for Saturday delivery).
- ***TECHNICAL SUPPORT HELPLINE:***
  A team of technical experts will be at your service.
- ***PRICE MATCH:***
  We match competitors on a "Same product - Same price" basis.
- ***ESTABLISHED 15 YEARS:***
  We have a proven track record in professional computer sales.
- ***PART OF A £50M A YEAR COMPANY:***
  With over 200 staff - We are solid, reliable and profitable.
- ***BUSINESS + EDUCATION + GOVERNMENT:***
  Volume discounts are available. **Tel: 081-308 0888.**
- ***SHOWROOMS:***
  We have demonstration facilities at all our stores.
- ***THE FULL STOCK RANGE:***
  All of your computer requirements are available from one specialist supplier.
- ***FREE CATALOGUES:***
  Will be mailed to you, with special reduced price offers, as well as details on all software and peripherals.
- ***PAYMENT:***
  We accept most major credit cards, cash, cheque or monthly terms (APR 29.8% - written quotes on request).

SILICA

SILICA IS A DIVISION OF PRODIS PLC

09002804/4

MAIL ORDER
PLUS TECHNICAL AND HEAD OFFICE
081-309 1111

1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 5SS

PLUS BRANCHES AT:

CHELMSFORD **Tel: 0245 355511**
Debenhams (2nd Floor), 27 High St, Chelmsford, Essex, CM1 1DA

CROYDON **Tel: 081-688 4455**
Debenhams (2nd Floor), 11-31 North End, Croydon, Surrey, CR9 1RQ

GLASGOW **Tel: 041-221 0088**
Debenhams (5th Floor), 97 Argyle St, Glasgow, Strathclyde, G2 8AR

IPSWICH **Tel: 0473 221313**
Debenhams (2nd Floor), Westgate Street, Ipswich, IP1 3EH

LONDON
52 Tottenham Court Road **Tel: 071-580 4000**
Debenhams (3rd Floor), 334 Oxford St **Tel: 071-493 3735**
Selfridges (Basement Arena), 369 Oxford St **Tel: 071-629 1234**

MANCHESTER **Tel: 061-832 8666**
Debenhams (3rd Floor), Market Street, Manchester, M60 1TA

SIDCUP **Tel: 081-302 8811**
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

SOUTHEND **Tel: 0702 468039**
Keddies (2nd Floor), High St, Southend-on-Sea, Essex, SS1 1LA

To: Silica, PCREV-0694-212, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND INFORMATION ON AMBRA PCs

Mr/Mrs/Miss/Ms: ..... Initials: .....

Surname: .....

Company (if applicable): .....

Address: .....

.....

.....

.....

..... Postcode: .....

Tel (Home): .....

Tel (Work): .....

Which computer(s), if any, do you own?

..... 212A

Hell Cab

There's more than the fare to pay when you take a ride with this cabbie.

Left: the devil's disciple, Cabbie Raul greets you.

Pepe Moreno has carved out a high profile reputation for himself in comics, graphic novels, animation and theatre. His best known work was the computer-created graphics book Batman: Digital Justice.

Perhaps it is only inevitable then that he would become involved with computer games. The result is Hell Cab, a fantastic journey through time and history, where the price of failure is your soul roasting in damnation.

Maiden in distress or a deadly trap?

"Pleased to meet you. Hope you know my name?" Have you any sympathy for the Devil?

Traditional trek

So are we in for anything new? Well, beneath the flash graphics, the stereo sound, all wrapped up in a £50 price ticket, Hell Cab is a point 'n' click adventure with a cursor icon which allows you to move about, look up and down, grab items and activate objects and characters. All very traditional.

As an adventure it is not particularly difficult. What does make game play a little wearying – well, very wearying, in fact – is the speed. The manual says pace may be slow if you run it with Windows' virtual memory on. Too true. At times I thought the machine had crashed it took so long to update the action. I could feel myself growing old.

On the road to hell

The game opens with you being picked up at JFK airport by the devil's disciple, Raul. Interrupting your travel plans, Raul drives you to the Empire State Building in the heart of Manhattan. No matter how much money you have on you – you start the game with $400 – it's never enough to pay for the fare.

But Raul will let you off the hook if you sign a paper agreeing to take the ultimate sight-seeing tour, from present day New York to ancient Rome, through to the World War One trenches of Verdun and into the prehistoric nightmare of a Jurassic jungle. Central to the adventure is the Empire State Building, in the basement of which is the gateway to Hell.

When you sign the paper you must also fill in a questionnaire. The answers alter the level of your soul together with the amount of fare you owe Raul. Success is measured on the Soul-O-Meter. Lose a life – you get three – and you find yourself in the Empire State Building's lift, descending down to Hell's waiting room where the Devil verbally roasts you before sending you back into the game.

If you survive and complete the level you will find each time zone contains a 'doorway' back to the present and the Empire State Building where Raul is waiting to take to the next zone.

Hell Cab is an interesting gloss on a traditional adventure idea, graphically well-presented, but not all that challenging..

■ **Paul Boughton**

TECHSPEC 6 RATING

Hellishly hard and deadly slow to boot.

Publisher:	Time-Warner Interactive
Price:	£49.99
Contact:	(0604) 790764
Minimum PC:	386 CD-ROM, Windows 3.1
Minimum memory:	3Mb of RAM under Windows
Minimum graphics:	SVGA
Sound:	Windows-compatible sound card

Corridor 7

The old, old story: passably good intro screens get you all excited, followed by a massive let-down when you finally get in to the game itself. Shame.

TECHSPEC	
Minimum PC:	286 PC
Minimum memory:	640K
Minimum graphics:	VGA
Sound:	Sound Blaster
Publisher:	Gametek
Price:	£19.99
Contact:	(0753) 553445
RATING	2

Corridor 7 smells of rampant bandwagoneering. Sure, Doom's very popular right now, and we're bound to be inundated with imitations. All of which makes it very difficult to review this sort of game objectively post-Doom — because there's no comparison. Still, that doesn't mean you can pump out any old 3D rubbish just because it happens to have a tweaked Wolfenstein game engine.

Corridor 7 is no more than Wolfenstein in space, but without the edge to the gameplay or the atmosphere.

What can I say? You run round an indescribably repetitive series of right angled rooms and corridors, picking up weapons and health bonuses and occasionally shooting some appalling animated sprites disguised as aliens, with an equally appallingly animated gun. Shoot enough aliens, find the odd secret room and activate the odd computer access code, then pop back into the lift and do the same again on the next floor down. Yawn.

There are four things in its favour. One: the sound is passable; two: the proximity mines are a nice touch; three: it's cheap and will run on pretty much any PC under the sun, and four: there's plenty of it (30 levels, in fact). Mind you, it's debatable whether even that's a good thing ...

All in all, by today's standards Corridor 7 is a visually despondent, badly animated, dull, low resolution mess well past its sell-by date even before it is released.

Playing it is a way of passing the time, I suppose. But then, so's picking your nose or counting imaginary haemorrhoids — both of which are marginally preferable.

Save your money, this is dire.

■ **John Bennett**

Lands of Lore CD

TECHSPEC	
Minimum PC:	386MS-DOS 5.0
Minimum memory:	4Mb
Minimum graphics:	VGA/MCGA
Sound:	Sound Blaster, Ad Lib, Roland
Publisher:	Virgin
Price:	£49.99
Contact:	(081) 960 2255
RATING	7

Westwood Studio's Lands of Lore enjoyed some success when it was released on floppy disk last autumn. It's a good, solid role-playing game in the Eye of the Beholder mould — Westwood created Beholders I and II but parted company with SSI before the release of the disappointing third instalment. The original Lands was well presented, but relied on block-scrolling rather than the multi-directional Doom/Ultima Underworld variety. This remains true in the CD version. It does, in that respect, look slightly outdated, but the graphics are imaginative and colourful.

The main attraction of the CD version has to be the digitised speech. The voice of King Richard is provided by non other than Patrick Stewart, the British Shakespearean actor best known for his portrayal of Captain Jean-Luc Picard in Star Trek: The Next Generation. He does a good job, but unfortunately the character spends most of the game in a coma so you don't get to hear all that much of him.

The game has a fairly typical RPG plot: Scotia, an evil old hag wants to rule the world and you have to stop her. Well, it's slightly more complicated than that, but you get the general idea.

I am glad to see, though, that it doesn't take itself too seriously: Scotia is evil in a comic way, rather like those Disney cartoon villainesses, and there are a few jokes peppered throughout the dialogue. Lands of Lore isn't an outstanding product by any means: it wasn't at the forefront of gaming technology when it was first released last year, and it's been well and truly superseded now. However, I've seen more than a few games which have the technology but lack the gameplay, and I'll take gameplay over looks any day. Lands of Lore is big, solid and enjoyable, and so long as you don't expect too much in the way of originality, you'll have fun with it.

■ **Cal Jones**

In Extremis

It's difficult to describe this game without comparing it to Doom. Both games are 3D, first-person perspective, smooth scrolling games and both involve shooting hordes of slobbering monsters with obscenely large high-tech weapons. There are two differences, however. Firstly, Doom is set in Hell whereas In Extremis takes place aboard an alien spaceship. Secondly, Doom is brilliant; In Extremis, er, isn't.

You play Commander Bob Jones, who stows away on an alien ship after his own patrol craft is destroyed. Unfortunately, he's about as welcome as a fare dodger on the London Underground, but rather than fine him £10 for not having the right ticket, the aliens have decided instead to relieve him of his life.

The idea, then, is to work your way through the levels, blowing away aliens as you go. Better weapons, energy packs and oxygen tanks are all up for grabs, but you need to find out and key in access codes to get into certain areas. That's it, in a nutshell.

Unlike Doom, the background graphics are not especially varied, with no stairs, slopes, or lakes of toxic waste, and the assorted green aliens are frankly comical. The real let-down, though, is the speed. After whizzing around at a fair old rate in Doom, In Extremis seems slow. Given its scenario, In Extremis should have been tense and exciting, but the less than frantic action is unlikely to get your adrenalin pumping.

To add insult to injury, it took me an hour to install the game, which works out at a staggering ten minutes per disk.

The disappointing thing about In Extremis is not that it fails to live up to Doom's high standards, but that it isn't even as much fun as Bethesda's Terminator Rampage or the much older Wolfenstein 3D.

That's the worse case of encephalitis I've ever seen.

Although it has its moments, the lack of pace and excitement in the game leaves it marooned in the average bracket, and why settle for average when you can have awesome?

■ **Cal Jones**

Left: In space, no-one can hear you laugh.

· TECHSPEC ·

Minimum PC:	386, MS-DOS 5.0
Minimum memory:	2Mb
Minimum graphics:	VGA
Sound:	Ad Lib, Sound Blaster
Publisher:	US Gold
Price:	£37.99
Contact:	(021) 625 3366

RATING **5**

Red Hell

This is you, the hero, Mark Constantine. Just as well they've managed to invent Grecian 2000 in the alternative future.

You're on the way to see the boss, who unfortunately happens to be a deranged evil madman. Can you thwart his foul designs and make the world safe?

Red Hell is a graphic adventure set in an alternative future which takes as its premise that the Soviets won World War 2. Er... they did anyway, didn't they? Ah yes, but they didn't invent the atom bomb first. Had they done so they would undoubtedly have used it to conquer the good old US of A, thus depriving civilisation of Ronald McDonald and Mickey Mouse. Hence the title, Red Hell.

The year is 2020 and you play the role of Mark Constantine, seemingly a quisling official in the puppet Soviet government of North America. In fact, surprise, surprise, you are a fearless hero of the Resistance, dedicated to the overthrow of the Red Menace and the restoration of democracy and an ecologically balanced perfect world. The Commies, you see, aren't just red, they're also not-green, which in the politically correct world of the PC game must be almost as bad. They're also, apparently, not too bright, because after conquering America they forgot to take out the Japanese, with whom they're still fighting a war. Red men squabbling with yellow men over the fate of God-fearing America? You might not be surprised to learn that Red Hell was designed in Texas.

Bizarrely though, the original version of this game, released only in America, was rather different. Instead of Soviets it featured Nazis, and dealt with America under the swastika, not the hammer and sickle. But apparently Cyberdreams didn't want to upset the Germans, so the scenario was changed for the European version. Whoever was responsible for this idiotic decision should be sentenced to ten years hard labour in the Stalag or Gulag of his choice.

Red Hell looks and plays like an old-fashioned Sierra game. Nothing wrong with old Sierra games, but if you're going to copy a house style why not at least try and model the latest issue? The interface is poor, the puzzles arbitrary and illogical, and the plot hopelessly hackneyed: not only is there a maze, there's also an evil scientist with a time machine. Give us a break! Red Hell is aptly named. It features some Reds and it's pure hell to play. Enough said.

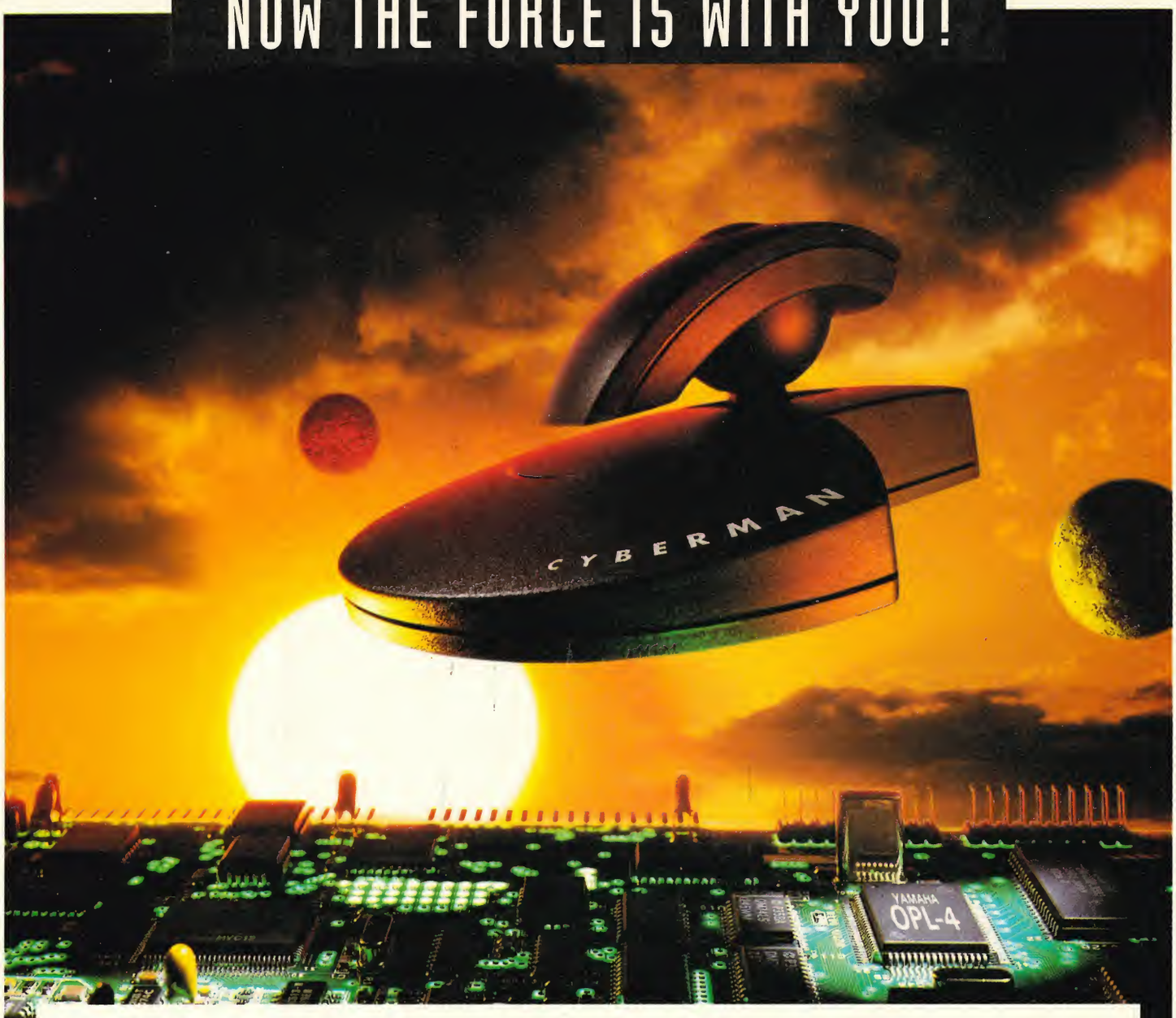
■ **Simon Shaw**

· TECHSPEC ·

Minimum PC:	386 (486 advisable)
Minimum memory:	2Mb, 25Mb hard disk
Minimum graphics:	VGA
Sound:	Ad Lib, Sound Blaster, Pro Audio
Publisher:	Cyberdreams
Price:	£39.99
Contact:	(071) 328 3267

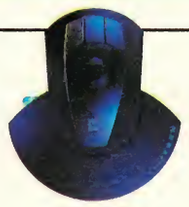
RATING **3**

NOW THE FORCE IS WITH YOU!



INTRODUCING CYBERMAN™ & SOUNDMAN™ WAVE. NEW DIMENSIONS IN ACTION AND SOUND.

You need control and power in the exciting new world of 3D games and sound applications. **CyberMan**, the futuristic interactive controller, gives you true three-dimensional control. It's the only device with pulsating tactile feedback, so you'll also FEEL the action! **SoundMan Wave***, the next generation soundboard with the new OPL-4 chip, uses advanced wavetable-synthesis to provide the most powerfully realistic 16-bit sound effects and music. **For REAL action and sound, get CyberMan and SoundMan Wave.**



CYBERMAN & SOUNDMAN WAVE ARE AVAILABLE THROUGHOUT THE U.K. AT:
ACTION COMPUTER SUPPLIES, BYTE SUPERSTORES, ESCOM, GAME, ICON SUPERSTORES, MICRO ANVIKA, PC WORLD, SOFTWARE WAREHOUSE, WINDOWLINE, AND OTHER LEADING PC OUTLETS.

FOR MORE INFORMATION OR A DEALER NEAREST YOU, CALL LOGI (U.K.) NOW ON **0344 891313.**

LOGITECH
The Senseware Company

*Guaranteed fully compatible with SoundBlaster, AdLib and General MIDI. With SCSI CD-ROM interface, joystick- and MIDI port. Includes 5 valuable software packages.

Diggers

Five races, seven different terrain types, over a dozen pieces of digging equipment, 33 levels and a variety of natural obstacles, all make mining a tough but interesting life.

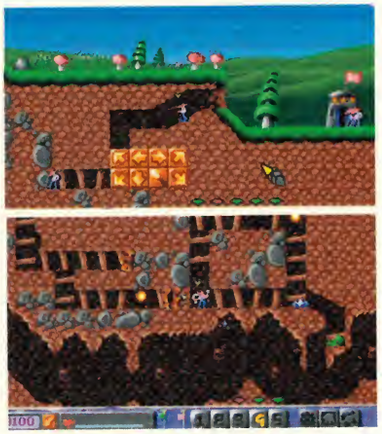
If you've ever played and enjoyed the ancient arcade game Dig Dug, the equally ancient home computer game Boulderdash or even the more recent Lemmings, you'll find a lot to enjoy in Diggers. The gameplay, a combination of arcade action and strategy, is a mite dull and difficult at first, but if it grabs you after an hour you'll stay hooked.

Diggers is basically a mining competition, in which you have to defeat your rivals in pursuit of a specific goal. When you commence you discover there are four mining races to choose from, and each has its own distinct abilities. Your job is to lead one of these teams (consisting of five men) on a quest to excavate the treasures of the planet Zarg, avoiding danger and the devious tactics of your computer-controlled opponents.

Zarg is divided into 33 huge zones, but you can only choose to mine two at the very beginning. Each zone features a variety of different terrains, including grassland, desert, jungle, ice, islands, mountains and rocky ground. Every terrain type has its own natural hazards, as well as over a dozen different kinds of flora and fauna.

The gameplay is icon-based and each member of your team is controlled independently. To complete a zone, you must either raise a predetermined amount of money (for example, by collecting any jewels you find and selling them at the bank), or eliminate your rivals. Cash can also be used to buy a wide range of mining aids, including teleports, maps, first aid kits and tunnelling machines. Completing a zone successfully allows you to move on to the next.

Once you get used to the various controls, slightly clumsy icon system and huge range of obstacles, the action in Diggers is addictive. The strategic elements of controlling five characters at once, coupled with the need to use equipment, collect treasure and deal with rival teams, make this a difficult game to master. However, once you're hooked, the potential for enjoyment is very great indeed.



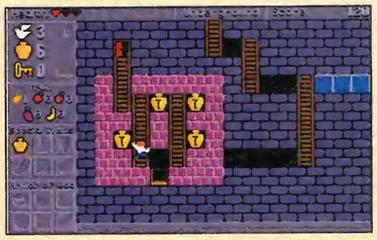
■ Gordon Houghton

· TECHSPEC ·

Minimum PC:	386SX, MS-DOS 5.0, Mouse
Minimum memory:	1Mb
Minimum graphics:	VGA
Sound:	Sound Blaster, Gravis Ultrasound
Publisher:	Millennium
Price:	£34.99
Contact:	(0223) 844894

RATING 7

Spiritual Warfare



Sex, violence, bad language, pornography – the staple ingredients of films, television, videos and, it could be argued, everyday life? Well, perhaps. But in some quarters it is now feared the advances in technology will mean these insidious ingredients will feature more and more in computer entertainment. Indeed, we've all read about the trade in computer porn in the playground and wanton violence has certainly reached a new height in voyeuristic sadism in the brilliantly addictive and, perhaps, morally-indefensible Doom.

· TECHSPEC ·

Minimum PC:	286
Minimum memory:	640K RAM
Minimum graphics:	EGA/VGA
Sound:	Sound Blaster
Publisher:	Alive Software
Price:	£32.99
Contact:	(0454) 415697

RATING 2

But does it really matter? Well, Alive Software certainly thinks it does. It is busily importing American 'Christian software' to try to redress the balance and "reinforce traditional family values."

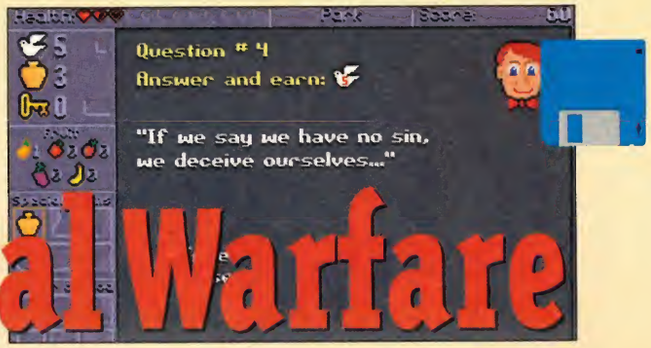
Which brings me to Spiritual Warfare – a scrolling graphics overhead view adventure – in which you must search for the "whole armour of God" which has been hidden throughout a city – such as the Belt of Truth, Shield of Faith Helmet of Salvation and so on. Along the way you convert unbelievers and root out evil.

You attack enemies with "fruits of the spirit." Once hit, they smile ecstatically, fall to their knees and add to points score. Essentially it's a tried, tested and tedious game formula which we've all seen before. Add to this the one unusual aspect – score-boosting multiple-choice Scripture questions. All accompanied by the hymn Friend in Jesus with Hallelujahs in the appropriate places.

Now, Spiritual Warfare is aimed at eight or nine-year-olds with a naive hope that it will appeal to teenagers. Promises of 'adrenalin pumping action' should provoke amusement among the Sonic generation. It has the feel of the old Mastertronic £1.99 Spectrum and Commodore games put out in the mid-eighties. PC games at this price should be better than this.

Left: The Lord moves in mysterious ways. In search of enlightenment.

Below: Scripture questions. A smile rewards a correct answer, a downwards turn of the mouth greets a wrong answer, not fire and brimstone as might be expected.



And that's the key problem. Is this a game with a message or a message with a game tagged on to lure in today's techno kids? Undeniably the latter. But if the software is lacking then the underlying message will fall on barren ground and will only be seen and heard by the already converted. And what's the good of that?

The devil may not have all the good tunes, but on these standards he appears to have all the good games. Spiritual Warfare would try the patience of a saint. Or Cliff Richard.

Save Our Souls from tedious, pious and over-priced software.

■ Paul Boughton

Darkseed

The disk version was released in 1992

This grim and rather macabre game was inspired by the work of the Swiss artist HRGiger, the man famous for putting the alien into Alien. It features a character called Mike Dawson, who just happens to resemble the game designer of the same name, and offers a lesson in what can happen when you trust in dodgy estate agents.

Mike, you see, has just bought a weird Victorian house, the kind of place that makes Munster Mansion look like a semi in Catford. His first night's sleep is ruined by a dream in which an alien embryo bursts out of his brain, and pretty soon he discovers alarming evidence that nightmare is about to turn into reality. In a race against time he must unlock the secrets of the house and discover the ghastly truth of the alternative world that lurks behind the mirror in the living room.

Darkseed is unusual and visually impressive, though only in the elaborate and beautifully drawn backgrounds: the actual movement of the sprites is wooden and unconvincing. The floppy disk version aroused mixed feelings but its powerful, cinematic qualities ought to be enhanced on CD. Well, they are and they aren't. The atmosphere is certainly creepy, but the sound is much less impressive than the visuals, and the principal offender is Mike Dawson himself. Really it would have been much better to have employed an actor, because Mike's own voice has the colourless but oddly emphatic tone of a linguaphone presenter. This is a real tension-killer. The music, too, quickly becomes repetitive and irritating. Somehow I never got fully involved in playing Darkseed. Once the splendour of the graphics palled, the actual gameplay couldn't quite hook me. Alone in the Dark is much more fun.

■ **Simon Shaw**

This is the house that Mike bought. Bang next door to the cemetery, which is convenient at least – he's only three days to live.

·TECHSPEC·

Minimum PC:	286
Minimum memory:	640K
Minimum graphics:	VGA
Sound:	Ad Lib, Sound Blaster
Publisher:	Cyberdreams
Price:	£44.99
Contact:	(071) 328 3267

RATING 6

Carriers at War II

Many moons ago, a relatively unheard of Aussie outfit called SSG snuck into the games scene and scored a couple of minor hits with Warlords and then Carriers at War. Recently it's been preparing to do it again, and the (somewhat uninspiringly titled) Carriers at War II is the fruit of its most recent hard efforts.

For newcomers to the original, CAW was a World War II naval strategy game based on the concept that a good artificial intelligence is more important than a pretty environment. It wasn't much to look at, but underneath you could get hours of gameplay out of the five missions, and then some if you added the Construction Set. For those of you who've played the original, you'll feel right at home with this.

CAW II hasn't changed a bit. Well, that's not quite fair. It has changed a tiny bit, just not a whole heap. The graphics aren't quite as garish, but the same pictures have been used. The interface is also pretty much the same, if a little refined, and the computer controlled commanders still seem to do the sensible thing remarkably often.

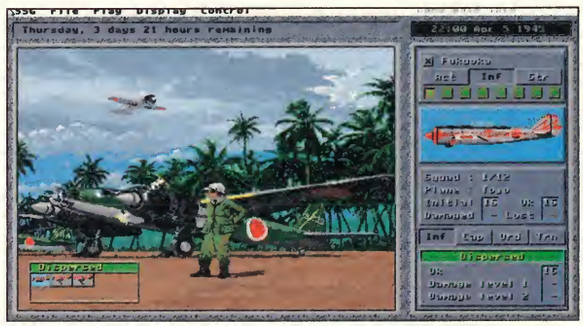
All of which makes me wonder. When Falcon 3.0 was updated and tweaked, Spectrum Holobyte released the new version free with the data disks. Isn't £45 a bit much for a bundle of new missions in essentially the same programming code? Furthermore, things have moved on considerably in the past 18 months, and the game should have had a damn good overhaul to keep in line with the new wave of products such as Great Naval Battles 2.

Don't get me wrong here. CAW II is a nice enough piece of kit for the strategists among you, no two ways about it. It's fun and that's the bottom line. However, if I had the first CAW then I'd be sorely put out by having to pay well over the odds for this very similar 'sequel.' If, on the other hand, you haven't played the original, the issue is rather more complex.

Not a whole lot, though. Carriers at War II hasn't the pace or visual splendour of Great Naval Battles 2, which I reckon will steal its thunder.

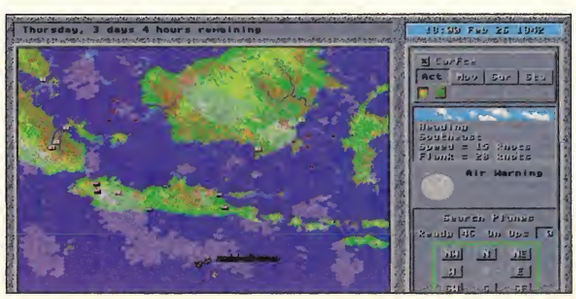
Still, if you're a hardened strategist then you shouldn't let yourself be put off: there are a lot of worse ways to spend your money. It's just that nowadays there are a lot of better ways too.

■ **Martin Klimes**



That's me in the middle of the jungle, plotting the downfall of the British forces.

The main screen in all its hex glory. Even the clouds have hexagonal patterns.



There are no plans for a CD-ROM version at present.

·TECHSPEC·

Minimum PC:	386 with mouse
Minimum memory:	2Mb
Minimum graphics:	EGA/VGA
Sound:	Ad-Lib, Sound Blaster
Publisher:	Electronic Arts
Price:	£44.99
Contact:	(0753) 549442

RATING 5

Eye of the Storm

Eye of the Storm has been in the offing for about three years and has already made a well-received debut on the Amiga. However, a torrent of gushing praise for the Amiga version doesn't always guarantee a great PC game, and this is no exception.

The game puts you in the role of a militant conservationist in AD 2124. Intelligent life has been discovered in the Great Red Spot of Jupiter, the area has been declared a lawless frontier zone and mercenaries have been despatched to fight in death games. Your job is to protect and explore this new world in 64 specific missions. These range from the almost impossible to the simple and stupid, but you get a cash reward for successful completion.

On your travels you can also unravel the secrets of ancient artifacts and discover teleport gates, but your prime mission is to identify the local flora and fauna and to map all the static objects. All very eco-friendly ...

Bizarrely, everything you do is transmitted live to a huge TV audience. The more people who watch you the more money you receive in royalties – and with more money you can buy improved equipment and extra fuel, allowing you to see more exotic life forms.

Despite the imposition of a mission-based structure, Eye of the Storm's attempt to combine arcade action, strategy and exploration make it a bit of a dog's breakfast.

On the positive side, once you've got used to the controls and you know the basic aim there is nothing fatally wrong with EOS. The manual is creative and informative, the sound and 3D graphics are competent, the plot is well crafted and the playing area is pretty large (1,600 by 1,600 km).

"There is nothing fatally wrong with this ..."

The trouble is that all of the game's best features have been improved upon already (in David Braben's Frontier: Elite 2, for example), and there isn't enough left in Eye of the Storm either in terms of originality or excitement to make it a must-buy.

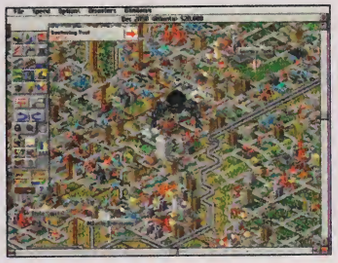
■ **Gordon Houghton**

Eye of the Storm features 64 missions in a playing area of 2.5 million square kilometres.

TECHSPEC

Minimum PC:	286, MS-DOS 3.2
Minimum memory:	2Mb
Minimum graphics:	CGA, EGA, VGA, SVGA
Sound:	Ad-Lib, Sound Blaster, Roland
Publisher:	Rebellion Software
Price:	£34.99
Contact:	(0865) 784555

RATING **5**



TECHSPEC

Minimum PC:	386; requires SimCity 2000
Minimum memory:	4Mb
Minimum graphics:	SVGA, 512K video RAM
Sound:	Ad-Lib, Sound Blaster, Roland
Publisher:	Maxis
Price:	£19.99
Contact:	(071) 490 2333

RATING **7**

SimCity 2000 Great Disasters Scenarios Vol 1

This is not the add-on to buy if you're a coward and play SimCity 2000 with the disasters option switched off. But it is for you if you like wreaking havoc, but find the process of diligently building up the metropolis so that the havoc can be truly devastating dull in comparison.

In Great Disasters, you get 10 ready-built cities, all loosely based on real US communities, and each with its own disaster waiting to happen. These run the gamut of SimCity 2000's disaster options (bar the tornado and the air crash, and with the interesting addition of a previously unknown volcano that rears up in downtown Portland), and as with most of SimCity's disasters, you tend to end up with fire rampaging through the city.

This time, however, since the disaster strikes as soon as you load in the scenario, you don't have time to build up the fire department beforehand. As with the original SimCity 2000 scenarios, you have a task to perform – usually repairing the damage and building up the population to a certain figure within five years – in order to be allowed to continue as mayor of the city in question.

Some of the scenarios make reference to real events, such as the flooding of the Mississippi river at Davenport in Iowa, and the earthquake in San Francisco – these two, incidentally, are probably also the easiest to succeed at. Others are tongue-in-cheek fictitious calamities: nuclear meltdown in Manhattan, rioting lawyers in Washington, aliens over Atlanta, for example.

In practice, these cities are most fun after you've recovered from the disaster, and retained your mayoral status, since you can then build your own version of the city: raze Manhattan to the ground and start again from scratch, maybe.

By no stretch of the imagination is this an essential buy for SimCity 2000 owners, but there is definitely a sadistic pleasure to be gained from seeing, say, Malibu Beach go up in flames.

■ **Christina Erskine**

Raptor

Buildings can get in the way of your shots, so blow them out of the way before dealing with the alien trash.

Long before I ever discovered role-playing games, I used to climb into my battered old Marina, drive down to Clacton and waste my change in the arcades. It wasn't the beat 'em ups which attracted me, nor the platform games, but the shoot 'em ups. I had a brief affair with Tempest, flirted with Gyrus, Slap Fight, Darwin 4078 and Tokyo and became thoroughly obsessed with a marvellous game called Star Force. Ever since then I've been waiting for a half-decent shoot 'em up to come out on PC. Believe me, I've been waiting a long time.

The Bitmap Brothers' Xenon II is really the only game which comes close, so I was looking forward to seeing how Apogee's Raptor fared. It's a traditional, vertically scrolling game with squadrons of "aliens" to kill, land targets, power-ups and the obligatory end of level guardian. It's visually pleasing, with smooth scrolling and well defined sprites, and the sound effects are satisfyingly beefy. It does, however, differ from the arcade games and Xenon II in several ways.

"The one thing I felt was missing was a score."

Mission impossible

There are three different missions (or one if you get the shareware version – I reviewed the registered version), each comprising of three levels. You can tackle these in each of the four difficulty levels: training mode, rookie, veteran and elite. Instead of accumulating a score, you win money for every alien you kill, and this can be spent on upgrades for you ship. After each level, you return to base where you have the option to save your game, quit or visit Harrold's Death Emporium to stock up on weapons. You only have the one life – you can take quite a bit of damage but you'll die as soon as your shields are depleted, so you either have to reload your saved game or start again from scratch. It's a good idea, then, to spend most of your cash on armour for your ship. Because all the weapons in the world aren't going to make up for the fact that you've got a socking great hole in your fuselage.

What's the score?

The one thing I felt was missing was a score. When I used to play the old arcade games, I kept on pumping in the change because I wanted to beat my high score. Raptor is a nice little game but you don't have anything concrete to aim for. The only thing which will keep you playing is the hope that you might get a little bit further with each attempt.

Aside from that, Raptor is a good addition to a much neglected genre. There aren't really enough levels to keep you entertained for long (Xenon II also suffers from this), but it's fairly enjoyable while it lasts.

■ **Cal Jones**

· TECHSPEC ·

Minimum PC:	386 MS-DOS 5.0
Minimum memory:	2Mb
Minimum graphics:	VGA
Sound:	Ad Lib, Sound Blaster
Publisher:	Bluebyte
Price:	£32.95
Contact:	(0274) 622228

RATING 6

can

you

actual VGA screens

manage

it?

The Tactician
Select your team and play the transfer market using real player data to make your decision. Unique tactical section enabales you to have total control of individual players. Change your tactics during the game using the unique preset tactical options-should you hold onto that one goal lead or go for another? Review the comprehensive and detailed statistics to plan your progress when you need to.

The Coach
Organise your coaching and training. Get your scouts "on the ground" invest in your youth team and nurse your injury list back to full fitness. Select the best backroom staff to maxinise your team's performance

The Manager
Deal with full post-match newspaper reports on your performance. Take tough decisions, deal with your chairman, sponsors and fans.

The Businessman
Negotiate your contract, look after yourself and make sure your're the boss of your own destiny.

The Winner
You're a 35 year old new boy - how long is it going to take you to get promotion, fill your trophy cabinet and build a dynasty. Your time is up after 30 seasons at the top.

We have managed to create an ultra advanced ARTIFICIAL INTELLIGENCE simulation of gameplay and player decisions. Relive the superb animated highlights of goals, saves and injuries. Everything you get in any other management simulation and more.

CAN YOU MANAGE IT?

IBM PC available in May RRP £34.99

Published by: IMAGINE HOME ENTERTAINMENT LIMITED

Distributed by: Software Business

0480 496497

club football - THE MANAGER

Great Naval Ba

The original GNB set a new benchmark for naval simulations. Could the sequel be about to blow it out of the water?

A turret's eye view of the enemy. You don't actually get to pull the trigger yourself, but at maximum magnification this is the best station from which to view your lethal handiwork.

Great Naval Battles Vol II simulates the Guadalcanal campaign, one of the two most decisive episodes in the Pacific War (the other being Midway). In addition to the type of heavyweight dreadnought contest which was the province of Volume I, the new game offers you the opportunity to indulge in massed carrier warfare and, by providing fixed island bases to attack and defend, adds in a completely new strategic dimension. The result is a massively detailed, yet relatively straightforward, simulation which is addictive and surprisingly exciting. It's also, without any doubt, one of the best war games ever to have appeared on the PC.

The original was good, but this sequel leaves it floundering in the shallows. The first improvement you'll notice is the superior quality of the new SVGA graphics. Cast your eye over the campaign map at minimum magnification and it looks very pretty, but zoom in on a single ship and the level of detail becomes quite staggering. Not only is the superstructure of each vessel crisply defined, but once the action gets under way you'll be able to pick out individual aircraft, near misses and torpedo tracks.

Considering the general scale at which the game operates (the map covers hundreds of thousands of square miles) this is some achievement. It's like looking at models in a miniature bottle through the wrong end of a telescope.

The interface is greatly improved, too (though clicking on some of the buttons can be irritatingly fiddly) but what really puts GNB2 in the Premier League is the depth of gameplay. The full campaign scenario is pure heaven for strategy fans.

Before you let yourself loose on that, though, you'll need to train yourself up using the tutorial scenarios. The introductory Battleship v Battleship game will hold few surprises for GNB veterans, but as soon as you move on to the multi-ship engagements you begin to get an idea of the crucial differences between naval warfare in the Atlantic and the Pacific.

Japanese tactical doctrine put great emphasis on night attacks, and as the US player your aim must be to keep beyond the range of their lethal torpedoes and engage them with the heavier weight of your gun batteries. Needless to say, they're not going to stand off politely and oblige you. The recreation of the famous 'Tokyo Express' run (where the Japanese attempted to ferry in reinforcements by night) has an authentic historical feel to it.

Move on up

However, it's when you move on to carrier operations that the game really hits its stride. The war was effectively decided by these massive floating airfields, but handling them requires skill. Awesome as is their firepower (in the form of dive-bombing and torpedo squadrons), it's fully matched by their vulnerability.

Keeping your destroyer supports in close formation will provide some blanket AA security, but the best means of defence is to attack: hit their aircraft carriers before they hit yours — even better, hit theirs before they even know yours are there!

You have a number of reconnaissance float planes at your disposal, but finding needles in haystacks is child's play compared to locating task forces on the loose in the world's largest ocean.

And don't make the mistake of sending all your aircraft out in one go. If you do, there's a good chance the enemy will turn up out of the blue and catch you refuelling on deck – and with a few thousand gallons of aviation fuel sloshing about inside your carriers, it could mean that you'll be coming home to a real fire.

Actually, it was precisely this nightmare scenario that happened to the Japanese at Midway.

The GNB concept is remarkable because of the multiple levels on which it operates. You can concentrate on controlling just one ship, flitting from station to station, supervising navigation, gun controls (much better in the new version) or damage repair.

You don't actually get to fire the big guns personally, which may be a disappointment to action fans, but it just isn't that sort of a game. I have to confess that when I first played the original I was a little disappointed by this, revelling as I do in the graphical delights of blowing things up in full SVGA colour, but after re-acquainting myself with the game world, I'm convinced of the wisdom of the original design. Engaging at the full range of a 16" gun it can literally take a minute or more for a shell to find its mark; indeed, it's physically possible to have up to three shells from the same barrel up in the air simultaneously.

Given the time lag it's just not an effective use of player resources to offer you the dubious pleasure of pulling the trigger yourself. If you want that sort of a game you'd be better off sticking to a flight or a tank simulation.

The CD version of GNB2 is pure shovelware. You have to install the game on to your hard disk and you'll require 14Mb of free disk space — exactly as for the floppy version.

As the CD version will then run slower, the point of it rather eludes me ...

War gaming at its very best.

PC TECHSPEC RATING 8

Publisher:	SSI/US Gold
Price:	£39.99
Contact:	(021) 625 3366
Minimum PC:	386
Minimum memory:	574K, plus 3MB extended
Minimum graphics:	SVGA
Sound:	Sound Blaster

Hles Volume II

Ships are controlled from the bridge. Click on the right mouse button to bring up the menus and then switch around from station to station. To navigate ships individually you'll need to detach them from their task force first.

ALTERNATIVELY

Task Force 1942
MicroProse
Rated 7, Issue 16

MPS's naval version of the Guadalcanal campaign came out at much the same time as the original GNB, and there wasn't a lot to choose between them. More of a tactical emphasis than GNB, but the AI is only adequate. MicroProse is now working on a sequel combined with a flight sim, which could be interesting.

Carrier Command
SSG/Electronic Arts
Rated 7, Issue 13

For serious war gamers only, SSG's veteran strategy slugfest (newly improved and updated) looks and plays more like a board game. While Carrier Command is infinitely better than SSI titles like Carrier Strike, it's got less appeal than GNB2. Recommended, though, if you're into the hard stuff.

The gunnery control screens enable you to keep a close eye on your batteries. If you want you can direct fire on a particular target, or even split the fire of your guns using the secondary controller.

Captain to bridge

Anyway, once you move on to the higher levels of fleet management you'll be hard pressed finding time to deal with individual ships, let alone all their various stations. The default mode leaves the computer as captain of each bridge, giving you time to concentrate on playing admiral and finding that Nelson touch. Ships are organised into task forces, the most potent of which are carrier groups, and each fleet is controlled from the bridge of its flagship. From here you navigate, set formations, and take strategic decisions. It's time-consuming enough controlling one task force, but the campaign game starts you off with six (as the US player – though you can play both sides) and there are strong reinforcements on the way. It's hard to keep track of everything that's going on, particularly when dealing with air operations.

The crucial point here is that your aircraft carriers have only a limited launch

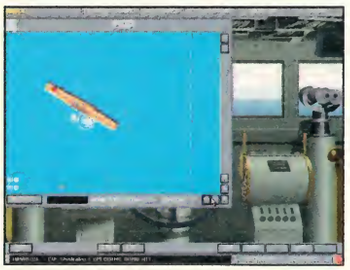
PLANE-SPOTTING

Your spotter planes have located a Japanese carrier group lurking over the horizon. It's a race against time to scramble your dive-bombers and put the enemy out of action before he finds you.

From the bridge of the Enterprise (no, not *that* one, *this* one)call up the Air Ops menu and select your attack squadrons.

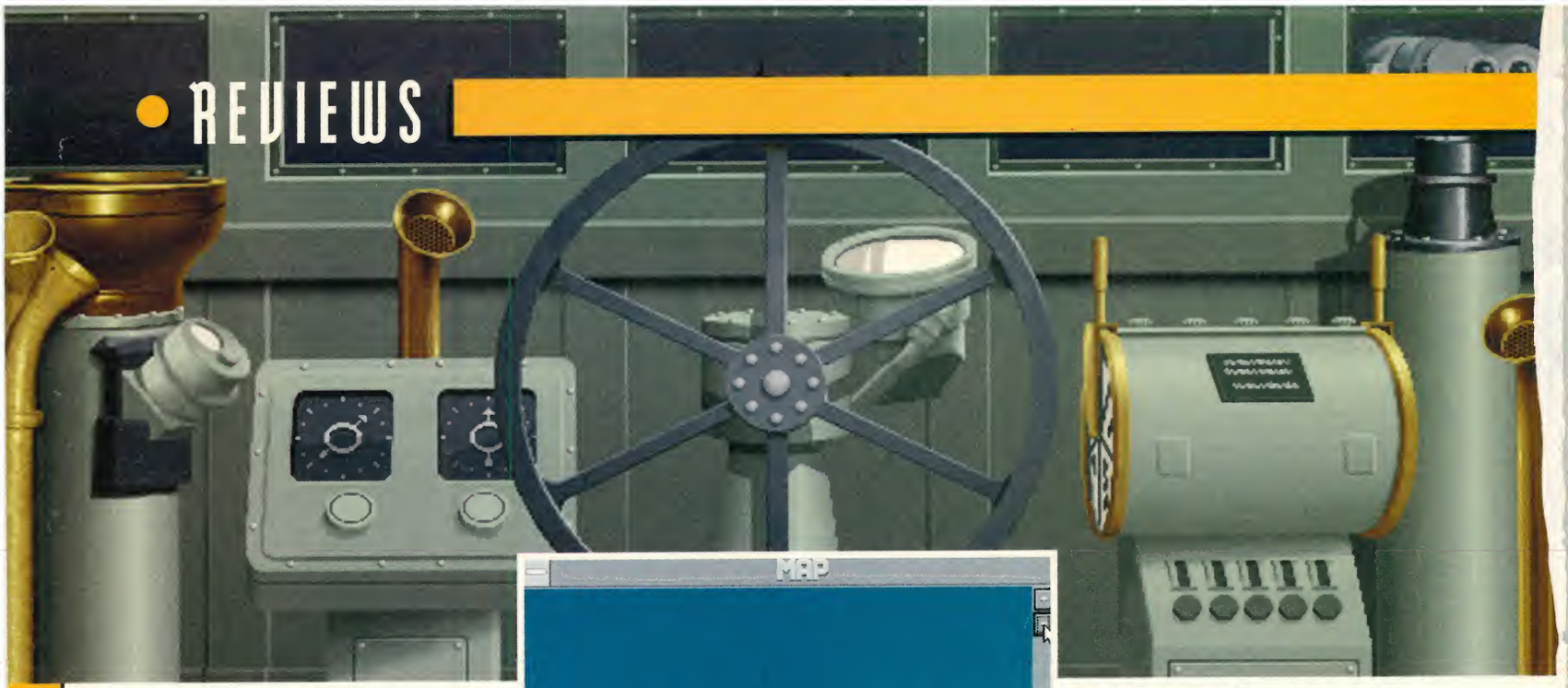
Dauntless dive-bombers armed with anti-ship bombs should do the trick.

With our bombers launched it's time to arm and fuel some fighters and concentrate on defence. We can't afford to move out of range of our own attacking aircraft, and that means we're vulnerable to a counter-stroke.



Meanwhile, in a different part of the ocean ... our dive-bombers begin their attack run on the Japanese carrier. Let's hope enough of them can fight their way through the flak and the defending Zeros to put it out of action.

Help! We're sinking! The Japanese dive-bomber squadrons have found us too and delivered a deadly blow. It's all hands to the pump, but not even our superior damage control will be able to spare us now. Banzai!



Ships are controlled from the bridge. Click on the right mouse button to bring up the menus and then switch around from station to station. If you want to navigate ships individually you'll need to detach them from their task force first.

capacity and it's just not physically possible to use all your planes at once. You're further constrained by being able to set only one mission per type of plane, so if you've readied your dive-bombers with anti-ship projectiles you can't suddenly change your mind and send them off to attack an airfield. You'll need to stand down and re-arm them first, a process which takes half an hour of game time. While this is going on you won't be able to refuel any other aircraft, so you'd better plan ahead carefully. The logistical aspects take getting used to, but add greatly to the realism.

Real, real, real, real

This high level of realism is of course an SSI hallmark, but many of its war games in the past have, notoriously, sacrificed playability in a swamp of detail. Titles like Pacific War gave the impression of chucking in everything but the kitchen sink, and demanded immense stamina and commitment simply to get on terms with the interface and the unforgivingly dense manual.

The first Great Naval Battles marked a significant departure from the house style, but it wasn't a one-off — SSI's last traditional hex-based game, Clash of Steel, boasted vastly improved graphics and presentation, and I understand there's even more promising material from the company in the pipeline.

That said, GNB2, however mould-breaking, remains very much at heart a war game. New improved user-friendliness notwithstanding, this is not a product designed to attract casual passing trade; it's for serious strategy enthusiasts only. Although many of the scenarios are challenging, they're also quite limited, and it's only in campaign mode that the fine game engine really has a chance to get into top gear. But if you're going to play Guadalcanal through to the death, you're going to need a lot of spare playing hours and excellent powers of concentration.

You might also be in serious danger of contracting RSI in your mouse finger.

My only serious criticism concerns the controls. Because of the vastness of the map, there's a lot of zooming in and out, but while it's easy enough to centre in on friendly units (using the auto-centre option) trying to focus on anything else can be a complete pain. You can't scroll around the maps, rather you have to click on tiny arrow buttons, and this is slow even on a 486. On a 386 it could be a frustrating experience.

In every other respect, though, GNB2 is a superb simulation. There isn't a two-player option, but the AI seems good, and four levels of difficulty in a huge and complex game should ensure a decent challenge even to experienced players. The acid test for me, as a reviewer, is how long before I shelve a game after I've finished writing about it.

In the present case, I strongly suspect that Great Naval Battles 2 will retain pride of place on my hard disk for some considerable time to come.

■ **Simon Shaw**

A convoy of transports making a supply run to Guadalcanal. Both sides need to ferry in reinforcements, and if you can get past the enemy's destroyer and cruiser screens you'll be able to wreak havoc.

Much of the action takes place at night. Because there are no aircraft about this is where your capital ships can come into their own. But beware — just because you can't see the enemy, it doesn't mean they can't see you!

romedia

INTERACTIVE SERVICES

CD ROM MULTIMEDIA SPECIALISTS

Unit 44 • Rushington Business Park • Chapel Lane • Totton • Hampshire • SO4 4LA

TEL: 0703 871177 Fax: 0703 871155

MICROSOFT

Encarta 1994 .....£79.00

Microsoft Music

Multimedia Mozart £38.00
Multimedia Beethoven.....£38.00
Multimedia Stravinsky.....£38.00
Multimedia Schubert.....£38.00
Musical Instruments.....£38.00

Microsoft Reference

Dinosaurs £38.00
Art Gallery £38.00
Cinemania £38.00
Golf £38.00

Pack Prices

Complete Collection £385.00
Any 3 titles
(excluding Encarta).....£105.10
Any 3 titles
(including Encarta) £147.00

EDUCATION

Undersea Adventure - *Complete a journey to the bottom of the sea* £49.00
3D Body Adventure - *Bring anatomy to life, learning program* £49.99
3D Dinosaur Adventure - *Put on the 3D glasses and you'll wonder whether there extinct!*.....£49.99
UFO - *The most complete guide to close encounters* £39.00
Groliers 1994 Encyclopaedia - *21 Volumes from this marvel of knowledge* £89.00

SHAREWARE

- Look for the Star Package for quality and price
- RomWare "7 Disc Bundle" Covering all Bases:- Animation, Windows, Tools and Utilities, Education, Games, Graphics and Sounds. 4.2 Gigabytes £49.99

Chestnut Brand:-

Our Solar System. NASA eat your heart out.....£10.00
Techno Tools. Everything for everyone £10.00
Computer Reference Library. Tutorials, Guides, Languages etc. £10.00
Death Star Arcade Battles. Arcade Action.....£10.00
Shareware Overload Trio 1.5 Gigabytes £30.00
Too Many Typefonts.....£10.00
Windoware £10.00

- Romedia Special:- Chestnut 9 Disc Bundle:-.....£75.00
- Shareware Extravaganza - 25,000 Programs. Do you need more?£39.00

So Much Shareware Two.....£18.00
Hot Stuff II.....£10.00
CICA for Windows - *660Mb of the most up to date shareware* £12.00
Giga Games.....£14.00
Bibles and Religions £15.00
Gold Collection 1993 .....£10.00

- Walk Throughs and Fly-Bys .£20.00

ENTERTAINMENT

Megarace - *The futuristic racecar game* £30.00
Gabriel Night - *The Occult adventure game* £29.00
Midnight Movie Madness *-60s/70s Drive in Movie Guide*.....£32.00

ENTERTAINMENT

Ultima VIII Pagan - *Adventure Game*.....£41.00
The Complete Ultima Collection £41.00
Myst - *Transformed for the PC, the best Mac game ever.*.....£35.00
TFX - *Superb flight sim* £35.00
Elite II -*Space age quest* £26.00
Comanche - *Helicopter flight sim*£32.00
Journeyman Project - *Photo Realistic Adventure Game*.....£35.00
Dragonsphere -*Adventure Game*.£25.00
Microcosm - *Journey through the body* £32.00
Video gambling - *Gambling Games Galore* £23.00
Rebel Assault - *Star Wars Shoot em Up*.....£29.00
Day of the Tentacle - *Cartoon Hilarity*.....£29.00
Lands of Lore - *Virgins latest adventure game* £35.00

ROMEDIA NETWORK

Toshiba 340S Tower

Toshiba 4 stack CD ROM drive tower for the advanced Network, with multiple read capacity. (7 & 8 stack also available)£1439.00

Optinet CD Networking Operating System (1-8 user)

CD Networking operating system for 1-8 users. Supports Novell, Microsoft and any other Netbios LAN. £418.00

Corel SCSI Network Manager

CD Networking operating system. Server software supported by Novell. £459.00

Corel SCSI version 2.0

For maximum performance and ease of use of your SCSI devices. £116.00

CHILDRENS

Busy Town - *Twelve interactive playgrounds to explore. (Age 3-7, meets guidelines laid down by National Education of young children)* £38.00
Lenny's Music Toons - *(3-10) Cartoon and music adventure*.....£38.00
Putt Putt goes to the moon - *Interactive learning game (3-10)*.....£00.00
Just Grandma and me - *Interactive Storybook (3-8)* £32.00
Arthur's Teacher Trouble - *Childrens storybook about a bear called Arthur (6-10)*£32.00
Mc Millans Childrens Dictionary - *Full Dictionary with pictures, sound spelling and games* £39.00
Tale of Peter Rabbit - *Animated picture book with sound* £19.95
Easops Fables - *Animated picture book with sound* £19.95
Beauty and the Beast - *Animated picture book with sound* £19.95

BUSINESS SOFTWARE

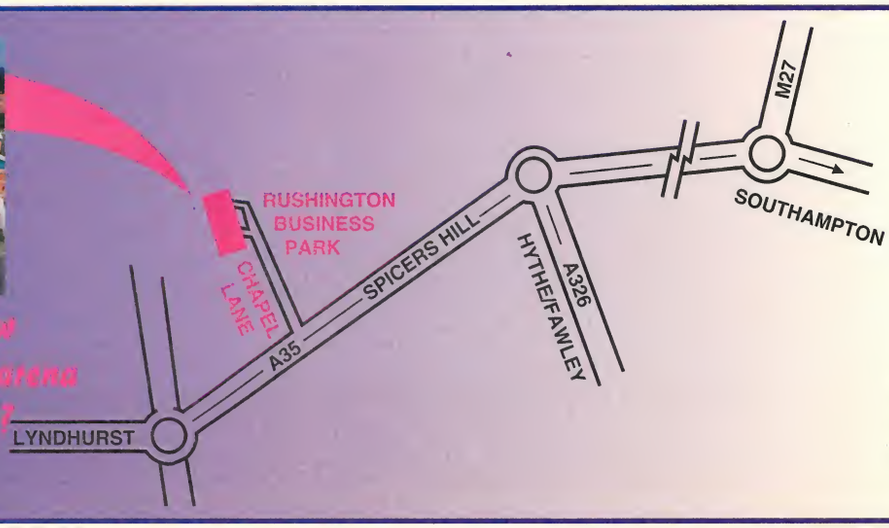
Lotus 1-2-3 for Windows.....£45.00
Micrografx Graphics Works £65.00
PFS for Windows - integrated Word Processor, Spreadsheet and Database) £49.00
Astound - Presentation Software £99.95

THE ROMEDIA GUARANTEE

No Grey Imports: These often appear as cheap options but offer little guarantee for the customer in the event of breakdowns. Consequently Romedia are authorised resellers for (amoungst others) the following manufacturers equipment.

Advanced GRAVIS · Labtec · MEDIA VISION · ROMEO · NEC · CREATIVE CREATIVE LABS · HITACHI · TOSHIBA · Panasonic

Callers welcome to our new showroom/demonstration arena 9.00am till late – try us!! Open 6 days a week



Battles of Time

Battles of Time is a compilation featuring four classic games, though some are definitely less classic than others. It's similar to UbiSoft's recent disk-only The Lords of Power (given a 5-star budget rating in Issue 27) and even features one of the same titles, Perfect General. Indeed the manual comes bearing the suspiciously familiar slogan The Lords of Power, which is a little sloppy to say the least.

The games, though, are fair enough, the best being Perfect General itself and Mega Lo Mania. Perfect General is a map-based war game, simple and fun to use, with an excellent two-player option. Mega Lo Mania is a hoary old isometric god sim, but it's worn surprisingly well and remains one of the better examples of its type. Highly recommended.

The other games are Battle Isle and First Samurai. Battle Isle hasn't lasted well, there are just too many sequels about: History Line used a similar engine and the recently released Battle Isle 2 has been justly heaped with praise. There would have been more mileage in releasing the intermediary Battle Isle 1.5 instead of the original.

First Samurai is a hack-and-slasher that doesn't really have anything in common with the other games. It's probably one of the better examples of a genre that's never sat comfortably with the PC, but it isn't going to set the world on fire. Although as a CD product it's pure shovelware, Battles of Time is still good value, even if The Lords of Power probably offers a slightly better selection.

■ **Simon Shaw**

· TECHSPEC ·

Minimum PC:	386, mouse
Minimum memory:	640K
Minimum graphics:	VGA
Sound:	Ad-Lib, Sound Blaster
Publisher:	UBI Soft
Price:	£29.99
Contact:	(081) 343 9055

RATING 7

Although Perfect General looks no better than a souped-up board game, it's user-friendly and nicely presented and the two-player mode is great fun. All four games in this compilation are relatively straightforward and easy to get to grips with.

Quest & Fun

Quest & Fun is a cheap, compact and unusual compilation. It contains King's Quest V (a Sierra graphic adventure), Leisure Suit Larry V (another Sierra graphic adventure with the same interface as KQV) and Red Baron (a Dynamix flight simulator). All of these games have been around for three years, and all have stood the test of time.

On its first release, King's Quest V represented state of the art technology. It used up an amazing (for then) 9.5Mb of hard disk space, used 256-colour scans of air-brushed paintings and featured superb sound and music. The plot trailed Graham of Daventry through glimmering glade and lyrical dale on a quest to rescue his family from the evil wizard Mordack.

If you can put aside your cynicism, there is a good deal of simple exploration and entertainment here.

Leisure Suit Larry V is a graphic adventure that's as friendly for beginners as it is challenging for experienced players. This 'fifth' instalment in the series (actually it was the fourth, a joke too long-winded to explain here) continues the sexploits of the balding slime-ball with a taste for gigantic gold medallions and shiny, drip-dry lounge suits. This time he's looking for a woman sleazy enough to front America's sexiest TV show. The major conflict in tone between KQV and LSLV should mean that at least one of these adventures will please you.

Red Baron is an old but still very playable flight simulator. You need a magnifying glass to read the tiny text of Ubi Soft's manual, but after that it's action all the way.

Set in World War I, Red Baron doesn't attempt to achieve the speed or sophistication of modern aircraft simulators, but what it lacks in class it makes up for in raw energy. A wide range of menu and gameplay options make it still one of the most exciting, interesting and exhilarating flight games around.

■ **Gordon Houghton**

· TECHSPEC ·

Minimum PC:	386SX, MS-DOS 5.0, mouse
Minimum memory:	1MB
Minimum graphics:	VGA
Sound:	Ad Lib, Sound Blaster, Roland MT-32
Publisher:	UBI Soft
Price:	£29.99
Contact:	(081) 343 9055

RATING 7

King's Quest V

Red Baron

Leisure Suit Larry V

Summer Challenge and Winter Challenge

Disk-based versions released a couple of years ago

Between them Summer Challenge and Winter Challenge take up around 3Mb of disk space, so this 'compilation' hardly makes efficient use of the CD-ROM it comes on. You can either install the two games to your hard drive, or play directly from the CD, and there is not an iota of difference between the original disk version and the CD pack. Those who don't habitually read the manual will panic when confronted with a request to enter a copy protection code from a codewheel, since there is quite plainly no codewheel in the box, but it is mentioned in the small print: for the CD version the copy protection has been disabled, but the screens have been left in. Not a very promising start.

Neither Summer nor Winter Challenge are poor games, they're just a bit long in the tooth. Winter Challenge includes such standard sports as downhill skiing, the luge, ski-jumping, speed skating and the biathlon, the last of which is frankly a bore if you've already ploughed your way around the cross-country skiing course. Summer Challenge, however, is a sort of post-modern octathlon, with archery, an equestrian course, kayaking, 400m hurdles, pole vault, high jump, javelin and cycling. Here there is much more variation in the controls, although rather a lot of bashing away at the Enter key, or joystick fire button to make your character go faster which makes you fear for the longevity of either.

The graphics are clear and well-drawn, although all the competitors are rather ugly (they're also all men, which is a bit unimaginative). The music is pretty average, and the sound effects variable — since when have skis shussing against snow sounded like a creaking door? — but the games are still good fun, despite each being over two years old. As with so many sports games, they're far more fun played with two or more human contestants than just you against the computer.

■ **Christina Erskine**

This is one of the events where you really just need to hit fire or Enter as often as possible.

Draw back your bow, line up the crosshairs which appear on the target and fire.

· TECHSPEC ·

Minimum PC:	286, CD-ROM drive
Minimum memory:	640K
Minimum graphics:	EGA
Sound:	Ad-Lib, Sound Blaster, Roland, Tandy
Publisher:	Accolade
Price:	£19.99
Contact:	(081) 877 0880

RATING 6

FIRST SAMURAI
UbiSoft
£9.99

Up-market high-kicking, power-punch console-style game which made its debut on the PC nearly 18 months ago. Its roots lie in those far off 8-bit beat 'em up classics Way of the Exploding Fist and International Karate. First Samurai walks left to right attacking and being attacked by monsters, villains and a whole host of nasties, feeding on the energy of these destroyed enemies, and all the time picking up new weapons. Good – if very familiar – fun, no surprises, and disappointing sound. It originally sold for £30.99.

★★★

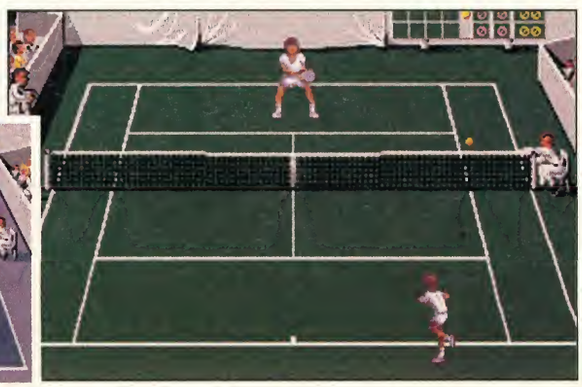
Budget Games

Yours for under a tenner: this month's crop of re-releases.

JIMMY CONNOR'S GREAT COURTS 2
UbiSoft
£9.99

Just in time for some early Wimbledon practice comes this one to four player tennis simulation, allowing you to play friendly matches, tournaments on grass, clay or asphalt courts. There is even an option to practice your strokes against a ball machine. Nifty and smooth gameplay. This game was originally released in this country as Pro Tennis Tour 2 back in 1991 (reviewed issue 2, rated 8, original price £29.99). Just how Jimmy Connor has suddenly got involved is anybody's guess.

★★★



CREATIVE

Sound BLASTER

PC Action

All our prices are subject to delivery charges and VAT at 17.5 %
Any price or contents are correct at time of going to press
Call for a full pricelist containing details of all our produts

Buy of the Month

Visit our new shop

Soundblaster AWE32

- CD quality digital audio
- Professional quality MIDI music
- Advanced signal processor chip
- Sound effects generator
- General MIDI samples in ROM
- Fit up to 32MB of RAM
- 3 CD-ROM interfaces
- 100 % Soundblaster compatible
- Includes telex microphone
- Superb range of bundled software

AWEsome Pack £339.00 Free ! Kodak Photo CD

Creative Labs 563 Internal

- Double speed
- Multi-session
- CD-XA compatible
- Digital audio out
- 320ms access time
- 300 kB/s transfer rate
- 64 kB buffer
- Motorized tray
- MPC level 2 complient
- CD audio cable

Soundblasters

Soundblaster AWE32
Details above
£199.00

16 SCSI-2
16 Bit stereo sound, Panasonic Sony & Mitsumi CD interfaces
£139.00
with AdSP Chip fitted
£159.00

16 MCD
16 Bit stereo sound, Industry standard SCSI-2 CD interface
£119.00
with AdSP Chip fitted
£139.00

16 Value
16 Bit stereo sound, Panasonic CD interface, Not upgradable
£79.00

Pro Value
8 Bit stereo sound, Panasonic CD interface, MIDI interface
£64.00

2.0 Value
8 Bit mono sound, Indy 500 Lemmings, MIDI interface
£49.00

Waveblaster
4MB MIDI ROM, 16 MIDI channels, 32 note polyphony
£149.00

Accessories

CD audio cables
NEC, Toshiba, Sony, Panasonic, Mitsumi, Chinnon and Goldstar
£8.00

MIDI cable
Connect your MIDI instrument to your Soundblaster
£20.00

Y-cable
Connect two joysticks to your Soundblaster
£8.00

Voice Assist
Voice recognition package for controlling Windows programs
£54.00

Speakers

Soundblaster CT-38
Battery operated, bass and treble controls
£14.00

Pro Digital
Mains powered, magnetically sheilded
£29.00

CD-ROM Kits

CR 563 CD-ROM
Details above
£159.00

CD16 Discovery
- Soundblaster 16
- CR 563 CD drive
- Speakers
- Photostyler
- Dinosaurs 3D
- Kid Pix
- Grolier Encyclopedia
- Scooter's Magic Castle
- Syndicate
- Conspiracy

£289.00

Gameblaster CD
- Soundblaster 16
- CR 563 CD drive
- Speakers
- Joystick
- Syndicate
- Conspiracy
- Rebel Assault
- Sim City 2000
- Iron Helix
- Lemmings
- Indy 500

£329.00

CH Joysticks

Virtual Pilot	£69.95
Flightstick Pro	£59.95
Flightstick	£33.95
Mach 3	£21.95
Mach 2	£19.95
Mach 1+	£17.95
Mach 1	£14.95

CD Software

Microsoft ;	
Encarta 94	£69.00
Cinemania 94	£35.00
Dinosaurs	£35.00
Art Gallery	£35.00
Musical Instruments	£35.00
Beethoven	£35.00
Mozart	£35.00
Stravinsky	£35.00
Pagan - Ultima 8	£27.00
Battle Isle 2	£27.00
7th Guest & Dune	£31.00
SVGA Harrier	£27.00
Star Trek 25th Anv.	£27.00
Megarace	£22.00
Strike Commander	£27.00
Commanche	£27.00
T.F.X.	£27.00

Floppy Software

Flight Simulator 5	£22.95
FS5 Paris	£13.00
FS5 New York	£17.00
FS5 Washington	£22.00
F14 Fleet Defender	£25.00
Harrier Jump Jet	£19.00
SSN-21 Seawolf	£25.00
Sim City 2000	£22.00
Ultima 8	£27.00
Ultima 8 Speech Pack	£13.00
Creepers	£15.00
Creative Writer	£22.00
Fine Artist	£22.00

081 893 3630

Cheques payable to PC Action

PC Action, 27 Hounslow Road, Whitton, Twickenham, TW2 7BZ

RICOH LP1200 PCL5 LASER PRINTER

400DPI 2Mb RAM 6PPM

A4 TEXT/A5 GRAPHICS @ 400dpi • A4 GRAPHICS @ 300dpi. A 2Mb RAM UPGRADE IS REQUIRED TO PRINT A FULL A4 PAGE OF GRAPHICS AT 400dpi

HP LASERJET III™ COMPATIBLE • FLASH ROM UPGRADEABLE!

Ricoh, have used their expertise to produce a 'first' in laser printers, the LP1200 with FLASH ROM. HP LaserJet III™ compatible, the LP1200 employs industry proven laser technology which, unlike LED printers, uses a laser light source to produce the most accurate and intense printed images at a range of print resolutions up to 400dpi. A fast efficient processor and engine, plus a straight paper path design allows printing at a full 6 pages per minute. The 2Mb RAM version prints a full A4 page of text or graphics at 300dpi. Using standard resident fonts and the alternate controller firmware supplied, it can also print an A4 page of text or A5 page of graphics at 400dpi and, using the Windows driver supplied, an A4 page of text at 400dpi from Windows 3.1.

SHOWN WITH
UNIVERSAL FEEDER
TOP TRAY (OPTIONAL EXTRA)

The 4Mb RAM version can print a full A4 page of graphics at 400 dpi and makes full use of the LP1200's 400 dpi printing capabilities, such as using Microsoft Windows fonts. Unique additional standard features include FLASH ROM 'future proof' technology and LAYOUT - a powerful document description language. The LP1200's unique internal FLASH ROM, which holds the printer controller firmware, can easily be updated as new developments in technology occur. This protects the investment you make in buying a Ricoh LP1200. Other manufacturers would require you to buy a new printer! Internal FLASH ROM and industry standard FLASH ROM PCMCIA cards can also be used to permanently store fonts, macros, graphics and extra emulations. Again, unlike the competition, the LP1200 includes LAYOUT, a powerful and intuitive document description language as standard. This offers unique opportunities to develop custom made printing systems. Forms and document templates can be designed complete with logos and stored electronically in the LP1200's FLASH ROM, alleviating the need for pre-printed forms!

The LP1200 comes with a 100 sheet A4 paper tray as standard. An optional universal feeder automatically feeds up to 150 sheets of paper (up to 169gsm), 15 envelopes, transparencies and labels.

PC MAGAZINE UK EDITOR'S CHOICE OCTOBER '92

COMPUTER SHOPPER BEST BUY AUGUST '92

PC TODAY BEST BUY OCTOBER '92

AMIGA GOLD FORMAT

LASER PRINTER AWARDS What to Buy for business A "BEST BUY" DECEMBER 1992

UNBEATABLE VALUE

THE AWARD WINNING RICOH LP1200 LASER

PREVIOUS PRICE ~~£599~~ + VAT

NEW LOW PRICE NOW ONLY

£499

+ VAT = £586.33

FREE! WINDOWS 3.1 DRIVER SUPPORTS 300 & 400DPI

FREE! AMIGA DRIVER SUPPORTS 300 & 400DPI

CORPORATE SALES TEAM
Tel: 081-308 0888
Fax: 081-308 0608

- **6 PAGES PER MINUTE**
- **2Mb RAM AS STANDARD**
  Upgrade to 4Mb RAM only £85+VAT - see below
- **PCL5 - INC HP-GL/2**
  With scalable fonts and vector graphics
- **SHARP EDGED PRINTING**
  Ricoh FIAL (Fine Image ALgorithm) enhances resolution
- **400dpi RESOLUTION**
  (Default res. - 300dpi. Will address 200, 240 & 400dpi)
- **UNIQUE FLASH ROM**
  For controller upgrade and storage
- **PCMCIA CARD SLOT** *(PCMCIA/JEIDA Compatible)*
  For programmable FLASH ROM cards
- **EXPANSION BOARD SLOT**
  For improved connectivity eg. Coax/Twinax, PC-LAN etc
- **LAYOUT** *Document Description Language*
- **SERIAL + PARALLEL PORTS**
- **1 YEAR ON-SITE WARRANTY**
  Next working day response

FREE DELIVERY

LP1200 WITH SINGLE BIN & 2Mb RAM LAS 5200 **£499** + VAT = £586.33

RAM UPGRADE - 2Mb to 4Mb	(LAA 5262)	**£85** + VAT
UNIVERSAL FEEDER	(LAA 5238)	**£85** + VAT
FAX OPTION Requires a modem	(FAX 1200)	**£120** + VAT
MODEM Pace Mocrolin FX for Fax Option	(MOD 7199)	**£149** + VAT

FEATURES	IBM 4029-020	FUJITSU VM600	CANON LBP-4 PLUS	STAR BIII	RICOH LP1200
Average Street Price (excl. VAT)	£929	£699	£659	£899	£699
Maximum resolution in dots per inch	300 x 300	300 x 300	300 x 300	300 x 300	400 x 400
Windows 3 Drver @ 400 dpi	-	-	-	-	YES
Print Speed	6ppm	6ppm	4ppm	8ppm	6ppm
Straight Paper Path	-	NO	(ONLY FACE UP)	YES	YES
PCL 5 Printer Command Language	-	YES	-	YES	YES
HP-GL/2 Vector Graphics included	YES	YES	-	YES	YES
Resolution Improvement/Enhancement	YES	YES	YES	YES	YES
Standard RAM	1Mb	1Mb	512K	1Mb	2Mb
Full A4/300 dpi graphics with standard RAM	-	-	-	-	YES
Warm Up Time	33 secs	25 secs	<60 secs	60 secs	45 secs
First Page of Text Output		15 secs	31 secs	18 secs	<15 secs
Document Description Language included	-	-	-	-	YES
Flash ROM	-	-	-	-	YES
Flash ROM Upgradeable Firmware	-	-	-	-	YES
PCMCIA Card Slot	-	-	-	-	YES
Scaleable Resident Fonts - in HP LJ III Emulation	0	8	0	8	8
Resident Bit-Mapped Fonts	10	14	2	14	14
AGFA Intellifont Scaleable Font Technology	-	YES	-	YES	YES
HP LaserJet III Emulation Included	-	YES	-	YES	YES
EPSON FX Emulation Included	-	YES	YES	YES	YES
IBM ProPrinter Emulation Included	-	YES	YES	YES	YES
Standard Tray Capacity	200	150	70	200	100
Protective cover on standard tray	YES	-	YES	YES	YES
Cost per copy**	1.9p	2.0p	2.1p	2.2p	1.65p
Min-Max Paper Weight in gsm	60-163	60-157	60-105	60-135	60-169
Able to print on OHP Film	YES	YES	YES	YES	YES
Able to print on 169gsm card (Manual Feed)	-	-	-	-	YES
Standby - Noise Level	38dB(A)	35dB(A)	<43dB(A)	<43dB(A)	<38dB
Printing - Noise Level	50dB(A)	46dB(A)	<53dB(A)	<53dB(A)	<48dB
PC Independent PLAIN PAPER FAX OPTION	-	-	-	-	YES

**As quoted by manufacturers - July '93

E&OE All Trademarks are acknowledged

CONSUMABLES + ACCESSORIES

PRODUCT CODE	PRODUCT DESCRIPTION	PRICE EXC VAT
CAB 7500	Cable for PC/ST/Amiga	£8.47
KIT 5200	Laser Starter Kit inc Cable	£12.50
LAA 5238	Universal Feeder (2nd Tray)	£85.00
LAA 5262	2Mb RAM Module	£85.00
LAA 5210	Developer/Toner Cartridge	£65.00
LAA 5225	OPC Cartridge (Drum)	£89.00
LAA 5312	A4 Paper Tray (100 Sheets)	£35.00
FAX 1200	Ricoh Fax/Modem Software/Firmware	£120.00
MOD 7199	Pace Microlin FX Fax/Data Modem	£149.00
LAA 5279	Ricoh Flash ROM Card (0.5MB)	£49.00
LAA 5286	Ricoh Flash RAM Card (1MB)	£199.00

All Prices are Exc VAT - CALL FOR A FULL PRICE LIST

*Note: A4 paper tray is already included in the printer price. More A4 trays can be purchased to feed different coloured stationery.

THE SILICA SERVICE

SILICA 1978 15 YEARS 1993 SERVICE TO YOU

Before you decide when to buy your new laser printer, we suggest you think very carefully about WHERE you buy them. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals or software, or help and advice. And, will the company you buy from contact you with details of new products? At Silica, we ensure that you will have nothing to worry about. With our unrivalled experience and expertise, we can meet our customers' requirements with an understanding which is second to none. Complete and return the coupon now for our latest FREE literature and begin to experience the "Silica Service".

- **FREE OVERNIGHT DELIVERY:** On all hardware orders shipped in the UK mainland (there is a small charge for Saturday delivery).
- **TECHNICAL SUPPORT HELPLINE:** A team of technical experts will be at your service.
- **PRICE MATCH:** We match competitors on a "Same product - Same price" basis.
- **ESTABLISHED 15 YEARS:** We have a proven track record in professional computer sales.
- **PART OF A £50M A YEAR COMPANY:** With over 200 staff - We are solid, reliable and profitable.
- **BUSINESS + EDUCATION + GOVERNMENT:** Volume discounts are available. **Tel: 081-308 0888.**
- **SHOWROOMS:** We have demonstration facilities at all our stores.
- **THE FULL STOCK RANGE:** All of your computer requirements are available from one specialist supplier.
- **FREE CATALOGUES:** Will be mailed to you, with special reduced price offers, as well as details on all software and peripherals.
- **PAYMENT:** We accept most major credit cards, cash, cheque or monthly terms (APR 29.8% - written quotes on request).

SILICA

27041711/4

MAIL ORDER

PLUS TECHNICAL AND HEAD OFFICE
081-309 1111
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 5SS

PLUS BRANCHES AT:

CHELMSFORD Tel: 0245 355511
Debenhams (2nd Floor), 27 High St, Chelmsford, Essex, CM1 1DA

CROYDON Tel: 081-688 4455
Debenhams (2nd Floor), 11-31 North End, Croydon, Surrey, CR9 1RQ

GLASGOW Tel: 041-221 0088
Debenhams (5th Floor), 97 Argyle St, Glasgow, Strathclyde, G2 8AR

IPSWICH Tel: 0473 221313
Debenhams (2nd Floor), Westgate Street, Ipswich, IP1 3EH

LONDON
52 Tottenham Court Road Tel: 071-580 4000
Debenhams (3rd Floor), 334 Oxford St Tel: 071-493 3735
Selfridges (Basement Arena), 369 Oxford St Tel: 071-629 1234

MANCHESTER Tel: 061-832 8666
Debenhams (3rd Floor), Market Street, Manchester, M60 1TA

SIDCUP Tel: 081-302 8811
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

SOUTHEND Tel: 0702 468039
Keddies (2nd Floor), High St, Southend-on-Sea, Essex, SS1 1LA

PLEASE SEND INFORMATION ON RICOH LP1200

Mr/Mrs/Miss/Ms: ..... Initials: .....

Surname: .....

Company (if applicable): .....

Address: .....

.....

.....

.....

..... Postcode: .....

Tel (Home): .....

Tel (Work): .....

Which computer(s), if any, do you own?

.....

To: Silica, PCREV-0694-219, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

219A

VISIT THE ONE PRISON THAT NEEDS NO BARS...

ROBINSON'S REQUIEM

Robinson's Requiem is a survival/adventure simulation set in a startlingly realistic virtual environment the like of which has never been seen before.

The Scenario
Imprisoned on an alien planet your aim is to escape. If you have to amputate one of your own limbs to stay alive, then that's what you must do. Features more than 100 variables managed in real time : your body temperature, stress, fatigue, pain, disease, gangrene, hallucinations...

The Prison

A spectacular world in mapped 3D, computed in real time. Over 3 square miles of play area includes : canyons, hills, waterfalls, and caves.

The Challenge
Hunt and gather food, find water, make your own clothing and weapons, deal with health hazards and fight off predators, test your survival skills to the very limit, and get the hell off that planet !

Silmarils

Available for PC and compatibles
AMIGA / AMIGA 1200
ATARI ST / STE / Falcon
Coming this September :
Jaguar, 3DO, and CD32 versions !

SILMARILS UK, 2 CANFIELD PLACE, LONDON NW6 3BT TEL : 071 328 2762 FAX : 071 328 2738

WIN A SOUNDWARE 562 CD-ROM PACK

PLUS five copies of Litil Divil, the mischievous new game from Gremlin

COMPETITION

I know, I know, we're just too good to you. But we reckon PC Review readers deserve it, and Gremlin Graphics evidently thinks so too, because in a state of abundant generosity, it is donating a devilishly good Addup CD-ROM Sound Card Solution package to the winner of this competition. This comes complete with a double speed, Panasonic CR562 internal CD-ROM drive, a single and multi-session drive with Kodak Photo CD compatibility, Microsoft CD-ROM extension software drivers, plus audio interface cables for Sound Blaster/Sound Galaxy and Gravis UltraSound. (Despite the name of the pack, it doesn't include the sound card itself).

Not only will our winner get that bag of goodies, but also a copy of Gremlin's latest game, Litil Divil, on CD-ROM. This light-hearted maze and puzzle game features Mutt, the 'litil divil' in question on his quest for the Mystic Pizza of Plenty. You take the part of Mutt, exploring over 50 rooms, looking for lost artefacts and the lost souls of divils who came to grief on previous pizza missions. In our review in Issue 29, Gordon Houghton said, "Excellent, silly sound effects combine with superb graphics to create a very enjoyable experience. It's even funny when you die."

There are five more copies of Litil Divil on either disk or CD-ROM to give away as second prizes, and then if you miss out on the big prizes you may still be in with a chance of winning one of the ten T-shirts we'll be giving away to runners-up.

How to enter

Now, how do you go about getting your hands on this fiendishly good set of prizes? Simple. Just answer the single question given below and enter it on the coupon provided. Add your name and address to the coupon and then send it (or a photocopy if you don't want to spoil your copy of PC Review) to

Divil's Delight
PC Review
Priory Court
30-32 Farringdon Lane
London EC1R 3AU

Make sure it reaches us by June 15, 1994. This is the closing date and any entries that we receive after that will not go into the prize draw.

The burning question

Which is the odd one out in the following list and why?

- Brownie
- Hobgoblin
- Pan
- Rusalka
- Buggane
- Leprechaun
- Puck

DIVIL'S DELIGHT

The odd one out is .....

The reason is .....

.....

Name.....

Address.....

.....

.....

If I win, I'd like Litil Divil on ❑ disk ❑ CD-ROM
(Tick which medium preferred)

❑ Tick this box if you don't wish to receive any further information from companies associated with this competition.

Closing date June 15, 1994 PC Review Issue 32

GREMLIN

RULES

- Employees of EMAP Images, Philips, Gremlin Graphics, and their families and associates are not eligible to enter this competition. No multiple entries, please.
- No entries received after the closing date will be accepted.
- The editor's decision is incontestably final.

Left: If you stick your rucksack in one corner of the screen and leave it open, then you can get to your stuff, like healing potions, much quicker in an emergency.

Above: Talk to anyone and everyone you meet in Ultima VIII, even if they've just performed a sacrifice in your presence.

Ultima VIII: Pagan

Pagan is a harsh world, full of exploding chests and fierce monsters. For those who could do with a helping hand, Martin Klimes, who practically lives in his armoured pants and red cloak these days, has come up with this beginners' guide.

Ultima 8 is BIG. Not as sprawling as previous Lord British incarnations perhaps, but still fairly massive in anybody's books. The size, together with a totally revamped look, means that Ultima fans and newcomers alike are in for a treat. A few pointers, though, may get you started on the right foot.

First things first. The basic rules of role-playing still apply to Pagan, no matter how much it resembles an arcade adventure. So, take everything of use that you can carry, explore everywhere, and of course, be careful!

In Ultima 8, though, even these simple concepts need a bit of qualifying.

For starters, you must decide what is, (and what isn't) useful. Carrying around debris and plates just fills up your rucksack and doesn't help a whole lot. There are many items that you don't need. They're merely props to the story, although be sure to move things around everywhere you go. You never know when the key you want will be hidden under the most valueless piece of crockery. Weight is a bugbear that will haunt you constantly, especially when you start wearing heavy-duty armour.

The basic rules of role-playing still apply to Pagan: take everything of use that you can carry; explore everywhere; and, of course, be careful.

Secondly, explore everywhere, but be aware that there is an actual plot for Pagan, and as you go you'll get involved eventually. Once you start on the planned route, it's tough to detour and revisit other places, so make the most of a little time at the beginning to have a scout around.

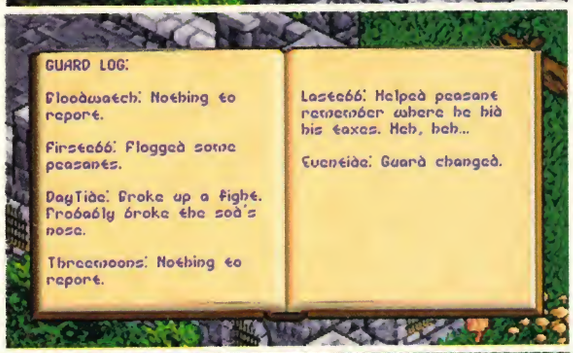
Once you're stocked up on goodies and know what's where, you can carry on. There's no rush.

Tread gently...

But be careful. Tenebrae is full of traps and situations that could kill you in the blink of an eye, and doubtlessly will as you experiment. Remember, therefore, to save a game when you get that 'I bet you I die here' kind of feeling. It's a slow process, but less frustrating than going back to the start.

That said, the city of Tenebrae is nothing in comparison to some of the surrounding areas. My firm advice is not to be tempted to leave the city too early. Mellow out for a while and check out the town. It's a pretty big place full of interest in itself, and there are two things you can and should do while you're there. Firstly, check out how the movement, fighting and character interaction works. Run, jump, and kill peas-

Left: Getting the hang of combat doesn't mean taking on the city trolls at the first opportunity. Not even with an axe or sword in your possession. So I suggest staying in the observers gallery when you get to the arena.



across. Some books, like the best-selling 'What The Fish Tell Me' are full of total cods-wallop (if you'll pardon the pun), but many more contain useful hints and pointers for further adventure. Also, by getting to know the people, you are setting up the plot for later, when you actually decide to start your quest.

Run, jump and kill peasants (on second thoughts, stick to zombies, Beren the Sorcerer tends to do nasty things to murderers.)

Whilst you're meeting the people, you might want to build up your equipment a bit too. Money's quite a nice thing if you should want to buy something, but then again, I seemed to do just fine stealing everything I came across. Being a burglar may not be morally the soundest move, but it sure gets you the goods. Pinch everything you can carry by going to visit folks at home or work and waiting for them to leave the room for a moment. That's how I nicked the weeping widow's entire gem collection. When she came back, she even bought them all back off me without recognising a single stone! Excellent!

Carry on camping

Because of weight restrictions, there's value in having a camp or two around the city, preferably in out of the way places that you can still get to easily, like the edge of the castle moat. Since you'll find that weight is soon a problem, dump everything you can here. It's not far from all the city exits, and once you start teleporting it's handily close to the castle teleporter. For the same reason, a camp in Mythran's house is a good move, once you get there.

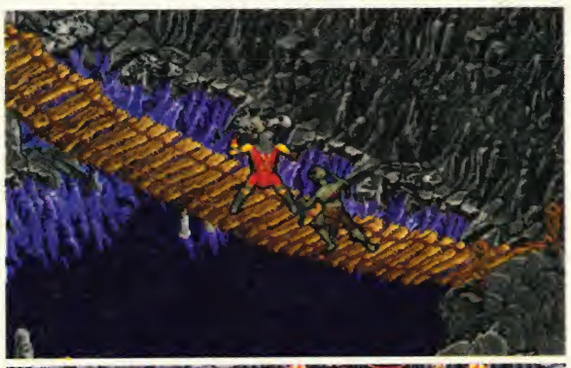
One useful little item you might come across is the keyring, and if you do then grab it immediately. By attaching all the keys you find to it, you not only clean up your rucksack a bit (tidiness is an important virtue for all adventurers), but also the keys then all weigh only one unit, no matter how many you add. Also, when you use it, one attempt on a lock tries all your keys, saving heaps of annoying mouse-clicking. A bargain piece of equipment in anyone's books.

Go west

So, you've rifled the entire city's valuables and stocked up on armour and weapons. You've talked to all and sundry and know what's where and why. You're ready to head out of town then. West of the city's a good first bet. Have a wander, walk around the caves by the waterfall (running past the skeleton if he kills you repeatedly – I still find that the coward's approach is the best by far!), and say hello to Kilandra, the lady who penned the masterpiece mentioned above.

Mind you, whilst west of the city is all well and good, if you want to get into things for real then go north. Moving through the catacombs to the Plateau will not only open up a whole new area, but give a pretty fair glimpse of the catacomb wandering to come. Perhaps most importantly, though, after exploring the Plateau and maybe getting the Hammer of Strength from the second set of catacombs on the Plateau (mind the invisible guy!), you'll want to go into Mythran's house and introduce yourself. Time for the story to begin for real.

This is where your involvement with Pagan magic starts and, with a bit of help from Mythran along the way, you move along the road to deification. It will be a long and hard trek, but if you sorted yourself out right at the start then there's no reason you shouldn't hit Ultima 9 as a winner on Pagan.



ants (on second thoughts, stick to zombies, Beren the Sorcerer tends to do nasty things to murderers), but whatever you do, get used to the controls before you head out into the wilds. Try setting up the screen with your rucksack open but tucked away in one corner, and the health bars in another. I've found this gives me quick access to the Death Disks I carry when I need them and I always know how close to dying I am, without cluttering the view.

The other thing you'll want to do wherever you go, but especially in the city when you first arrive, is to chat with absolutely everyone. Get out there, be gregarious, and talk up a storm. It's amazing what you can find out. And if people aren't being very helpful, then read everything you come

Ultima VIII: Pagan

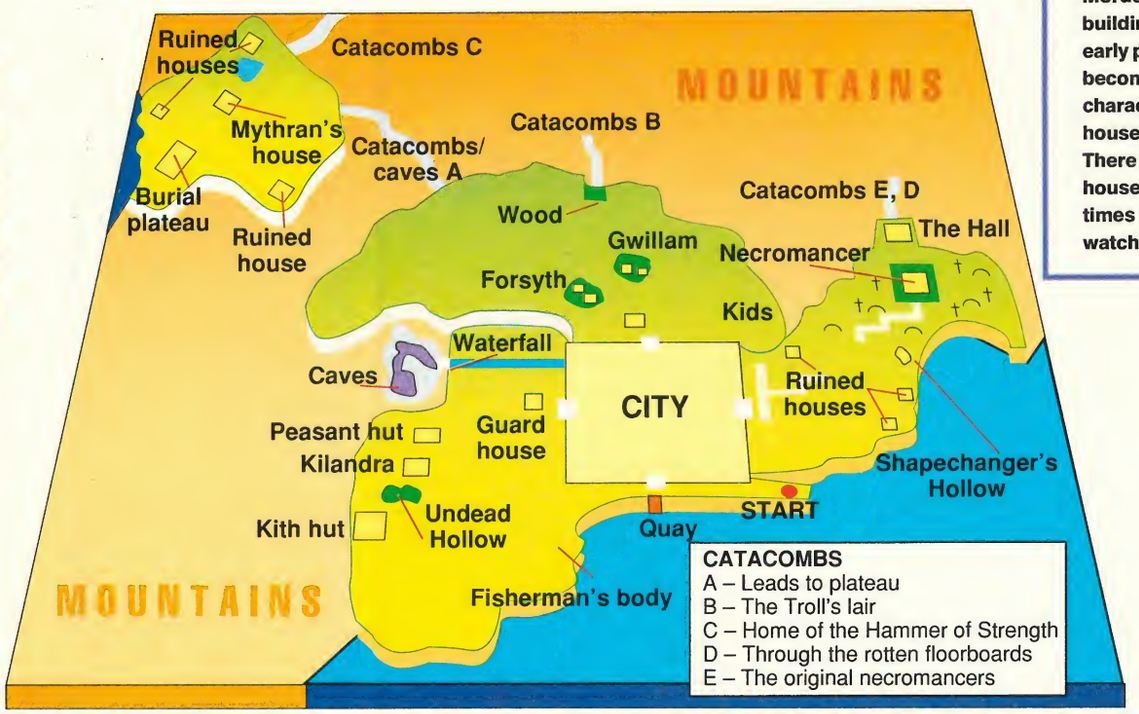
Tenebrae, the largest city in Pagan, is a hostile place where turning the wrong corner can result in sudden death. Fortunately, we've provided a couple of maps to help you stay on the right track. The rest is up to you ...

PAGAN

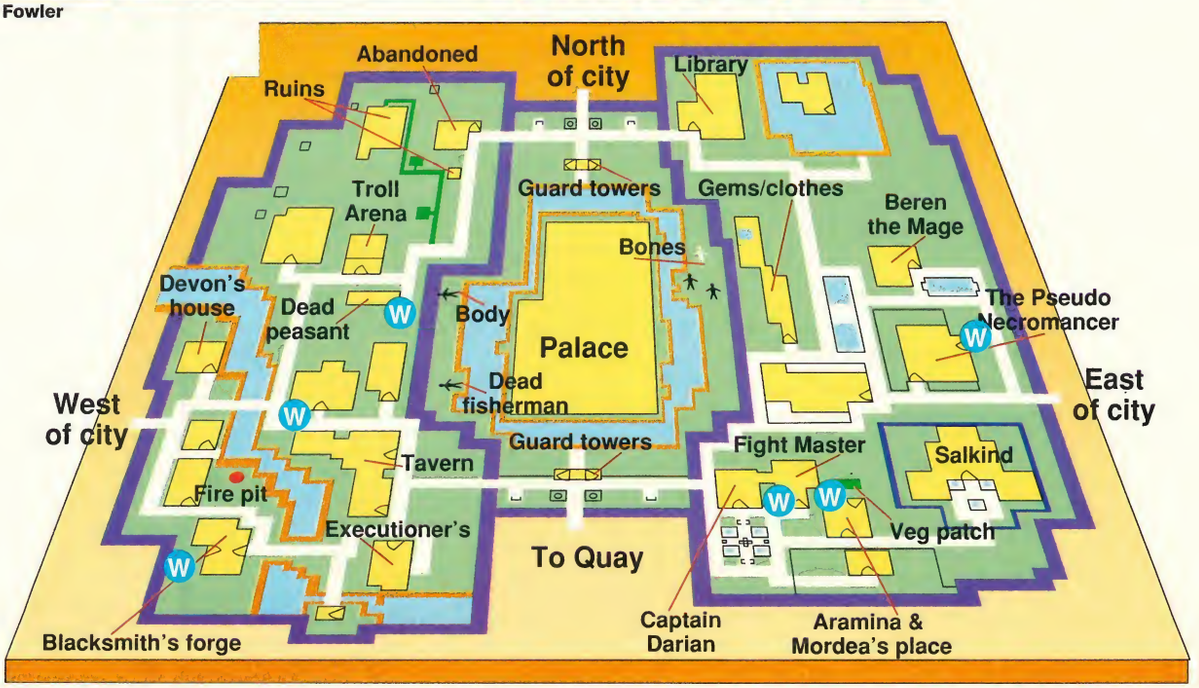
You start the game just outside the walls of Tenebrae, and although the immediate area isn't very large, it's certainly dangerous.

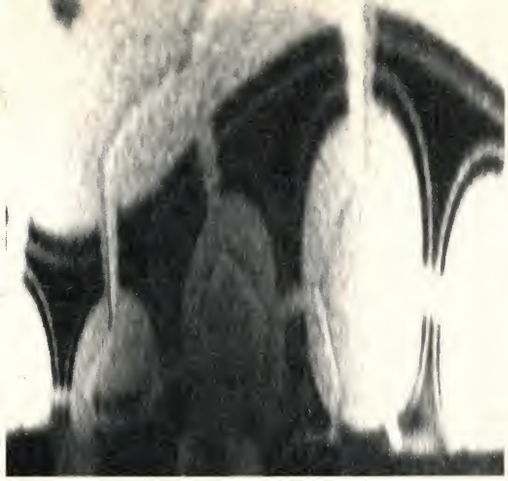
The top map shows Tenebrae and the surrounding area, with the cemetery to the east, the plateau to the north-west and the ocean to the south. Watch out for wild kith because these hostile creatures are almost impossible to kill.

The lower map represents the city itself, which is dominated by Mordea's palace. Many of the buildings are locked during the early part of the game, but will become open later, and some characters may be found in their houses only at specific times. There are clocks in many of the houses, and you can check the times by looking in the guards' watch books in the palace.



Illustrations by Geoff Fowler





can you manage it?

actual VGA screens

THE ULTIMATE FOOTBALL MANAGEMENT SIMULATION FOR YOUR PC

The Tactician

Select your team and play the transfer market using real player data to make your decision. Unique tactical section enabales you to have total control of individual players. Change your tactics during the game using the unique preset tactical options-should you hold onto that one goal lead or go for another? Review the comprehensive and detailed statistics to plan your progress when you need to.

The Coach

Organise your coaching and training. Get your scouts "on the ground" invest in your youth team and nurse your injury list back to full fitness. Select the best backroom staff to maximise your team's performance.

The Manager

Deal with full post-match newspaper reports on your performance.
Take tough decisions, deal with your chairman, sponsors and fans.

The Businessman

Negotiate your contract, look after yourself and make sure your're the boss of your own destiny.

The Winner

You're a 35 year old new boy - how long is it going to take you to get promotion, fill your trophy cabinet and build a dynasty. Your time is up after 30 seasons at the top.

We have managed to create an ultra advanced ARTIFICIAL INTELLIGENCE simulation of gameplay and player decisions. Relive the superb animated highlights of goals, saves and injuries. Everything you get in any other management simulation and more.

CAN YOU MANAGE IT?

IBM PC & compatibles available in May RRP £34.99

PC CD ROM to follow.

Published by:
IMAGINE HOME ENTERTAINMENTS LIMITED

Distributed by:
The Software Business

for further information contact us on 0480 496497

Football - THE MANAGER

Gabriel Knight

Cal Jones guides you through the mysteries of Voodoo in the second and final part of our complete Gabriel Knight solution.

Day 4

Read the paper and observe the man at the window. Ask Grace to research the veve pattern. Then go to Napoleon House to collect the bracelet from Sam. Go to Jackson Square and you'll notice Crash. You can't talk to him yet, so find the fortune teller and talk to her instead. Then go to Jackson Square Overlook and watch Crash through the binoculars – you'll see him give something to the drummer. Enter the cathedral and find Crash in the pew. To make him talk, show him the bracelet. First ask him about the drummer, and then question him on other topics. Ask him about the Voodoo Hounfour last. After he dies, look at the body and open the shirt. Copy the tattoo using the sketch-book.

Day 5

Read the paper, get the veve research and Wolfgang Ritter's journal from Grace and talk to Hartridge when he phones. Read the newspaper clipping Grace has given you, and ask her to research Rada drums. Then read the journal and Wolfgang's letter. Visit Grandma and ask her about Wolfgang. Then go to the university where you'll find that Hartridge has been murdered. Take the notes from the desk and leave.

Go to the Voodoo Museum. Switch on the fan to escape from the snake. Return home, where Grace will spot a scale on Gabriel's face. She'll put it into the ashtray, so magnify the ashtray and then use the tweezers on it to retrieve the scale. Use the magnifying glass on the new scale, and then on the scale you found by the lake to compare them. Now go to the police station and talk to Mosely. Tell him about the murders and ask him about case status. When he tells you that the case has been closed, ask him to re-open it. Give him the newspaper clipping, snake scales, Hartridge's notes and the veve diagram. He'll agree to help you solve the case. This brings you to the end of day five.

Take a walk round town, visit a fortune teller, find a dead body and have a snake painted onto your chest. Just some of the things that await you in Gabriel Knight!

Day 6

You've got a nasty surprise waiting for you this morning in the form of a dead chicken on your rug. When the commotion has died down, read the paper and get the Rada drum book from Grace. Pick up the envelope which lands on your doormat, open it and read the letter inside. It also contains the key to Mosely's office. Give the sketch of Crash's tattoo to Grace and tell her you want to wear it to a party. When she asks if Malia's going, say yes and tell her you understand her jealousy. She'll then paint the snake on to your chest.

Next, go to Jackson square and use the Rada book on the drummer to translate the drum messages. Go to the south west of the park and talk to the beignet vendor. Convince him to go back to Royal and Conti, where the police station is located.

Go to the police station and the beignet vendor will appear. When all the cops are out of the room, use the key to open Mosely's door. Open the bottom of the desk drawer and take the tracking device. Leave.

Go to the Voodoo Museum and hide one of the tracking bugs in the Sekey Madoule (ritual coffin). Then go to the ceremony. Look at the Laveau tomb and notice the new message. Copy it down in the sketch book. Use the new sketch on the old, trans-

lated sketch to find out the meaning. Use the brick to write your own message on the wall. Copy down the first message, but substitute Sekey Madoule for Fwet Kash.

Go to the swamp and use the tracking device on yourself to activate it. Follow the blips until you arrive at the ritual, but don't enter the clearing until you've put on the mask. You need to answer two simple questions before you'll be admitted. A non-interactive sequence will take you to the end of the day.

Day 7

Call Wolfgang Ritter and interrogate him, then read the paper and leave the shop. Go straight to the cemetery. Enter the Gedde tomb which is now open, and use the torch. Find the plaque with the veve on it and open the drawer. You'll find someone you know inside, before falling unconscious. When you wake up, look in the same drawer and take the wallet. Open it to get the credit card, then leave the tomb by pressing the button on the right. Go back to the shop and phone the travel agency, which you'll find on the directory page. Ask about a trip to Germany and use the credit card to pay. When you arrive at Schloss Ritter, talk to Gerde and find out all she knows. Take the knife from the hall wall and look around the castle rooms. Ask Gerde about the panels in the chapel and the poem on the portal door in the bedroom, then take the salt from next to her.

Return to the bedroom and take the chamber pot, scissors and scroll. Look at the scroll. Open the window and use the snow to wash with. Use the scissors on yourself to cut your hair and go to the chapel. Put the chamber pot on the alter and use the salt on it. Use the knife on yourself, and then use the alter to kneel. Use the scroll on yourself. Finally go to bed and dream.

Day 8

When you wake up, take the key from the end of the bed and use it on the locked door. Enter the library. Look at each shelf, then pick up the book from the occult section. Do the same with the geography section, sociology section, history section, religious section and archaeology section in that order. Give the last book you find to Gerde and use the credit card to get yourself a flight to Africa.

Day 9

Enter the snake mound. The snake mound has twelve interconnected rooms, arranged like a clock face. Walk round, collecting all the loose tiles (some are in place, some on the floor) and pick up the rod. Two tiles are stuck in place. Look at them and count the snakes on them. Place the tiles in the correct slots, starting with the room by the entrance which is in the six o'clock position. Once they are all in place, go to the room in the three o'clock position, save your game and use the rod on the tile there. The mummies will start to reanimate as soon as you do this, so quickly head for the door at the top of the screen – if you're quick enough, you'll be OK. Do the same in the next room, but in the third room along you'll have to lure the mummy right and then try to get around it. This is far from easy. The room by the exit is filled with mummies, so quickly use the vines to swing past them. In the next room, Wolfgang will come to the rescue, so go straight through the secret door and use the rod on the small hole. You should both make it into the inner circle. Go to the table and look at both the top and the base. Take the iron bars (you'll need them both) and use them on the table. Once in position, try to operate them. Wolfgang will ask you to go to the other side of the room and cut out the mummy's heart. Use the knife on the mummy. Another non-interactive sequence takes you on to the final day.

In the third room you'll have to lure the mummy out and then try to get around it. This is far from easy and took me many attempts to get through without dying.

The desk sergeant looks like a poster boy for heart disease--30 extra pounds between his armpits and his belt, and a complexion the consistency of gray oatmeal.

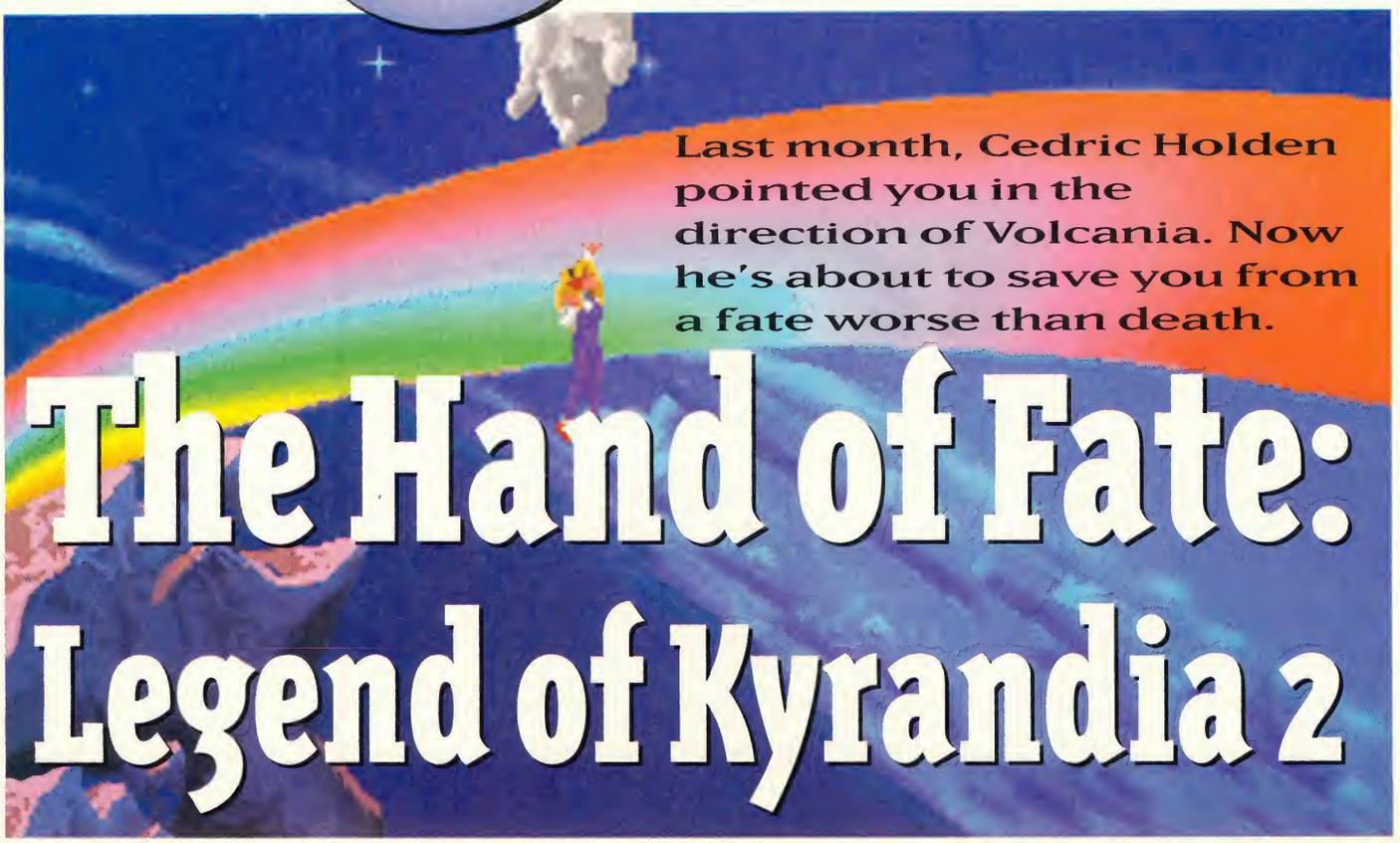
St. Louis Cathedral has a beautiful chapel, warm with tones of gold and cream, and rich with delicate frescos and meticulously-carved wood.

Day 10

When you get back to New Orleans, head straight back to the bookshop. Grace has gone missing. Read the paper and the note you find by the till. When Mosely appears, interrogate him. After this, go to the cathedral. Enter the right hand confessional and use the rod on the knot hole to activate the secret lift. Place the rod and the remaining tracer bug under the seat, then leave the lift and open the door opposite. All the doors in the hounfour are opened by operating the adjacent keypad. Like the snake mound, the hounfour is shaped like a clock-face with doors at every hour. The lift is at six o'clock. Start by going anti-clockwise and look in all the rooms you can open. The second office (four o'clock) contains a second drum code book. Take this. Go into Malia's room (three o'clock) and observe, then sneak a quick peek at Dr John in the next room round. Don't try to take anything from this room yet, because if you stay too long in here, he'll kill you. Enter the room at seven o'clock and take two robes and the two masks. Then go into the centre of hounfour and use the drums. Use the first book and select 'summon' before clicking on the 'next book' option and then selecting 'brother eagle.' This will call Dr John to the centre for a short time. Exit the centre via the top right hand corridor. Back in the outer ring, move one screen clockwise (exit at the top of the screen) and enter Dr John's room. Grab the keycard from the opposite wall and exit as quickly as you can – hanging around will prove fatal. Use the keycard to open the room at one o'clock, and grab three bundles of money. Next, use the card to open the room at eleven o'clock. Look around. Finally, use the card to open the door at eight o'clock and find Grace inside. After Mosely enters, use the talisman to wake Grace, then give the boar costume to Mosely and use the Wolf costume on yourself. You can now take part in the ceremony. As soon as you are able, use the talisman on Tetelo to stop her killing Grace. Then use it on Grace and Mosely to throw it to them. They can now escape. When Tetelo grabs you, pick up the idol. Finally, try to pick up Malia when the crack opens in the floor. This will lead you to the end sequence.

The Hand of Fate: Legend of Kyrandia 2

Last month, Cedric Holden pointed you in the direction of Volcania. Now he's about to save you from a fate worse than death.



In volcania

Collect two rocks from the beach, stand in the large air vent and descend to the lava cavern. Collect a rock. Go west and get an empty flask and another rock. Go east and east again, pick up the stick and some fuzz from the tree, then cross the bridge and pick up a rock and the lead heart (turn it to gold).

Throw the stick to the dinosaur until the air vent erupts, stand in the vent and get two pebbles. Then make the teddy bear potion using the fuzz, pebbles and gold heart. Stand on the rock above the tyrannosaurus and jump on to its back. You'll end up with a red cloth.

Go west to the door, wait until the triceratops is facing it and use the red cloth. The door leads to the anchor chamber. Pick up the spellbook page and a small anchor.

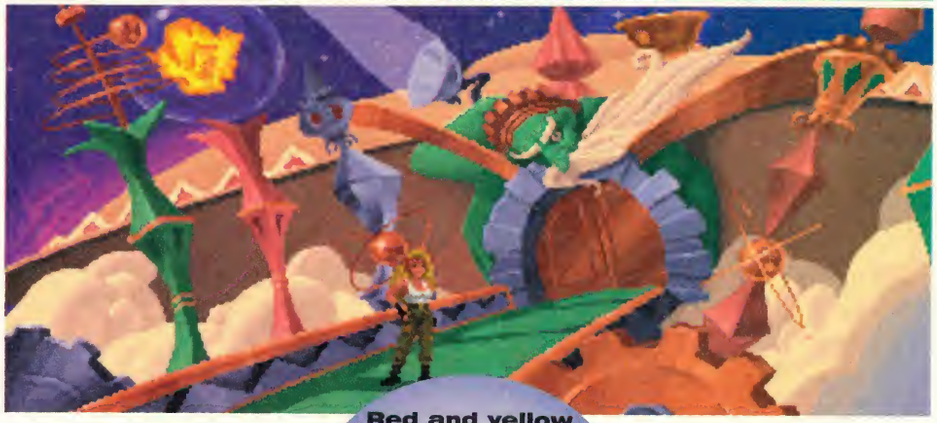
To escape, seal the non-active air vent with a rock. Wander west and seal three more vents, then go back to the door location, stand on the board in the lava pit and get blown to the forest.

The enchanted forest

At the forest get a flask from the hole and a pine cone. Go east to the bridge and pick up a snowball, some twigs and some charcoal (use the twigs and rolling stone on the flint rock). Return to the bridge and make a snowman potion using the snowball, moss and charcoal. Use it on the guard. Take the walnut, go east to the meadow and use the alchemist magnet on the statue. A box appears. Get a drum and a jack from the box and an acorn from the tree to the left of the statue. At the forest, use the drum on the trees and move east to the ski-lift. Speak to the squirrel and give him the pinecone, acorn and walnut. Use the rolling stone on the wheel and get into the carriage. This takes you to the lodge.

Talking to the animals is par for the course in Hand of Fate II. Speaking to the squirrels, giving them pine cones and walnuts is also quite usual!

Outside the lodge get a snowball, a broom and a feather duster. Inside, pick up a flask, cannonball and some musk (from the left hand trophy).



Exit and turn the cannonball into gold, give it to the man and take the lolly from the child. Make the abominable snowman potion with the snowball, feather duster, musk and lolly. Use it and enter the lodge. Watch an auto scene which ends at the yeti pad.

In the pad, pick up the candy, perfume, flask and feathers. Leave by going north to the ice cavern, pick up two icicles and use one to climb the cliff.

After being taken back inside by the yeti, leave again and watch the hunters approach. Now make the abominable potion again using the icicle, perfume, feathers and candy. Use it on the hunters. Break off two more icicles and use one to climb the cliff. East leads to the small cabin.

The rainbow machine

Inside the cabin is the rainbow machine. Use the three levers to find the rainbow stone, examine it (use on self) and note the colours and order; R O Y G B I V.

Make up the coloured potions in order, as below, and as each potion is made, collect it in a flask and fill the empty jars on the tree, in order, left to right.

Go outside, get an icicle and use it to climb to the roof. An auto sequence leads to the wheelhouse. Enter by using the alchemist magnet on the lamp facing left.

RED:	**hot air, feathers, red leather**
ORANGE:	**mustard, ground wheat, lettuce, cheese**
YELLOW:	**snow, musk, feathers, lolly**
GREEN:	**gnarly bark, sulphur rock, onion, tears, stool, hot water**
BLUE:	**fuzz, golden heart (lead/ alchemist magnet), pebbles**
INDIGO:	**purple gem stone, blueberry**
VIOLET:	**lucky horseshoe, footprint, sweet and sour, tears**

Once inside, climb the stairs and turn right. Think of the holes as russian dolls: each cone-shaped hole contains a series of increasingly smaller circles. Open the left hole by moving all the circular pieces from the right hole to the left hole and take the stick. Move all the pieces to the middle hole to get the cog wheel.

Exit and go past the top of the stairs and to the left. Put the wheel on the empty spindle and use the stick to lever it into place. When the Hand appears, avoid its attack by clicking on the machine. Before the hand attacks a second time, click on the right hand piece of stick on the floor. Finally, click on the hand itself. Now sit back and enjoy the end sequence.

Red and yellow and pink and green, orange and purple and blue, I can sing a rainbow, sing a rainbow, er, how about you? Or something like that.

QED TIPS

GAMES

Battle Isle 2

STAR TIP

Oxfordshire resident Jon Hughes has kindly sent in the level codes for Bluebyte's Battle Isle 2:

1. AMPORGE	2. JORGWAI	3. GEGIDOS
4. WABODAE	5. BUFASWE	6. GEHAUWA
7. OLARIBU	8. FITORGE	9. DAFATWA
10. WABIKDO	11. GEEUSAT	12. KAIMAWA
13. SIETIBU	14. GEDEROM	15. ULUARGE
16. ABUNDWA	17. LANADGE	18. WAFEFAL
19. BUSALUG	20. GEKEFZU	

Lands of Lore

DANGER

Philip Howe of Hertfordshire has been hacking away at Lands of Lore to give his characters extra experience. Use a file editor such as PC Tools, XTree or Norton and find the file "save000.dat". Locate line 0000B0 and change it by typing 30 75 30 75 30 75 and so on until you reach the end of the line. Save the file, then load the game, using this save. When you throw something you will become a 10th level rogue, when you cast a spell you'll become a 10th level mage and when you hit an enemy you'll become a 10th level fighter.

Ancients 1: Deathwatch

Philip also has a cheat for Ancients 1: Deathwatch, which featured on the November 1993 cover disk. In the Ancients directory you'll find a save game containing a party of cheat characters. To use the party, type:

COPY SAV.DTA SAVEGAME.DTA.

SimCity 2000

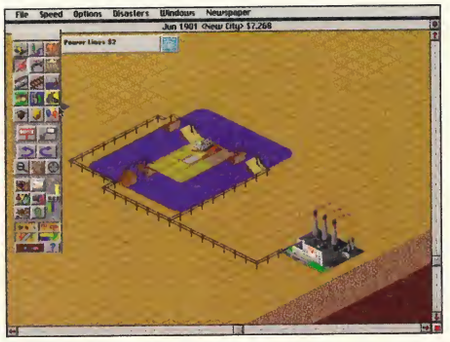
DANGER

Kaj Kold Hansen of Norway has discovered how to get 2,000,000,000 credits – all the money you'll ever need to build your dream metropolis. First start a new game and save it immediately.

You need a file editor such as PC Tools, XTree or Norton to edit your save game file.

Go to line 0000020 and change the eight number from the left from 00 to 77.

You should then find that you have vast sums of cash at your disposal. Spend it wisely.



Jurassic Park

Matthew Guinan of sunny Margate has been slogging his way through Ocean's Jurassic Park and has kindly provided this list of level codes:

1. B12A556B	2. 3B5FB56B	3. 0377D56B
4. 607AF56B	5. EB8FD56B	6. 8B8FF56B
7. AB90156B	8. 4B90356B	

Eye of Horus

Stuart Bateman from Warley in the West Midlands has a tip for Eye of Horus. After the instruction "Press Fire to Start" appears, type SPAM for invincibility. You also don't need to find the coloured keys to operate the elevators.

He has also compiled a list of level codes for Spherical:

1. RADAGAST	2. YARMAK	3. ORCSLAYER
4. SKYFIRE	5. MIRGAL	6. GHANIMA
7. GLIEF	8. MOURNBLADE	
9. JADAWIN	10. GUMBA	11. CHACMAL

Flashback

If you want a nifty cheat for that old favourite Flashback look no further than this little gem which comes courtesy of Philip J Walker.

Philip says , if you want to walk through walls in Flashback, all you have to do is get right next to the wall you want to walk through and then turn away from it. Next, start running away from the wall and as soon as you start to move, take your hand off Shift and turn back into the wall. You will now be able to walk through the wall.

This cheat will allow you to walk through any wall if you have enough room to perform it.

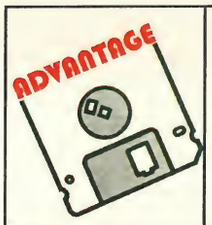
Please STOP sending us requests for QED Guides, since we are no longer able to provide this service. We will try and answer all your queries in Help Wanted. Thank you.

PUBLISHER'S HELPLINES

Hopelessly stuck in a game? Many software publishers run games helplines to help out hapless souls with hints and tips.

ACCOLADE	
Helpline number:	(081) 887 0880
CYBERDREAMS	
Helpline number:	(071) 372 4307
DOMARK	
Helpline number:	(081) 780 2224
ELECTRONICS ARTS	
Helpline number:	(0753) 546465
GAMETEK	
Helpline number:	(0753) 553445
GREMLIN GRAPHICS	
Helpline number:	(0742) 753423
INFOGRAMES	
Helpline number:	(0891) 244444
INTERPLAY	
Helpline number:	(0865) 390029
MICROPROSE	
Helpline number:	(0454) 329510
MINDSCAPE	
Helpline number:	(0444) 246333
OCEAN	
Helpline number:	(061) 839 0999
RENEGADE	
Helpline number:	(071) 481 9214
SIERRA	
Helpline number:	
(Games after 1993):	(0336) 417410
(Games before 1993):	(0734) 304004
US GOLD	
Helpline number:	(021) 326 6418
VIRGIN GAMES	
Helpline number:	(081) 964 8242

With automated numbers (0839) get the permission of whoever pays the phone bill first. Calls cost 36p per minute cheap rate, 48p per minute at all other times.



Our Best Selling GAMES

£2.50 each

APOGEE & ID SOFTWARE CLASSICS

- **ARCTIC ADVENTURE** Nevada Smith in chilling game
- **BIO MENACE** featuring Snake Logan vs Dr Mangle
- **BLAKE STONE** Action packed virtual reality game
- **COMMANDER KEEN** & Vorticons of Mars. L&P classic
- **COMMANDER KEEN** Goodbye Galaxy. Another Episode
- **COMMANDER KEEN** in Keen Dreams Great Arcade fun
- **COSMIC ADVENTURE** What's green with red spots
- **CRYSTAL CAVES** Full of treasures and traps
- **DARK AGES** Fulfil your destiny as King of Garth
- **DOOM** Simply The Best - Voted Game of The Year
- **DUKE NUKEM** Featuring Dr Proton & The Technobots
- **DUKE NUKEM** Great action-packed follow up
- **HALLOW'EEN HARRY** Massive armoury of weapons
- **JUMPMAN LIVES** Your own Anti- terrorist campaign
- **KEN'S LABRYNTH** Virtual reality for youngsters
- **MAJOR STRYKER** Fast triple-parallax shoot-em-up
- **MONSTER BASH** Release all the trapped pets
- **MONUMENTS OF MARS** Explore mysterious planet
- **PAGANITZU** Combines skill & logic and arcade
- **PHAROAH'S TOMB** Raiders of The Lost Tomb
- **RESCUE ROVER** Find out how to rescue your pet dog
- **SECRET AGENT** Play agent 006½ in this great game
- **SPEAR OF DESTINY** Episode 1 follow up to Wolfie
- **WOLFENSTEIN** Best -selling virtual reality game
- **ANOTHER LIFELESS PLANET** and with no beer
- **SOCCER GAME** Manage your own football team
- **GRAND PRIX** Car design and racing simulation
- **CADDIE HACK** Graphics sim of 18 Hole course
- **WORLD CUP CRICKET** Good simulation of the game
- **HERO'S HEART** Brain bending puzzle and skill
- **CAPTURE THE FLAG** PC version of outdoor game
- **BATTLE GROUND** 2-Player tactical combat
- **ARMY MANOUEVRES** Strategy game for 2 players
- **EGA TREK** The latest and earliest versions
- **BATTLE FOR ATLANTIS** Absorbing " Risk" style
- **FACING THE EMPIRE** Interstellar conflict sim
- **SPACE SHADES** Pilot your own space cruiser
- **ONE NIGHT IN SWEDEN** Solve the murder mystery
- **BATTLE FLEET** PC version of Battleships game
- **SHERLOCK** Great game of logical deduction
- **LADDER MAN** Mind bending game of logic
- **POWER CHESS** Game save & classic openings
- **CYRUS CHESS** Well-presented 3D chess game
- **APPLES & ORANGES** Othello/Reversi game
- **TEGL MONOPOLY** Four versions of board game
- **SLEUTH** Whodunnit game similar to "Cluedo"
- **MAHJONG** Fascinating game from the far east
- **WHEEL OF FORTUNE** Phrase -guessing TV game
- **JEWEL THIEF** arcade adventure for Windows
- **WINCHESS** Version of Chess for Windows
- **WINPOKER** The classical card game for Windows

Ask for your FREE catalogue

SPECIAL DISCOUNTS
1-4 titles £2.50 each
5-9 titles £2 each
10 or more £1.50 each

All fully operating shareware programs. Further payment brings you more episodes and features.

BEST UK PUBLISHED TITLES

- **BACK TO THE FOREST** featuring Skunny Squirrel
- **CASTLE OF WINDS** Fantasy game for Windows
- **CORNCOB 3D** Top quality flight simulator
- **EPIC PINBALL** Very realistic pinball simulation
- **EPIC BASEBALL** Authentic simulation of baseball
- **F117A** Stealth Fighter multi-feature flight sim
- **GALACTIX** Classic space invaders style game
- **HEXXAGON II** Compulsive puzzle game
- **JETPACK** Fast action arcade adventure
- **JILL OF THE JUNGLE** Control the female Tarzan!
- **KILOBLASTER** Galaxian -style arcade action
- **LEGEND OF MYRA** Complex animated adventure
- **LOST IN SPACE** Cuddly shoot-em-up with Skunny !
- **NIGHT RAID** Destroy or be destroyed
- **OVERKILL** Similar fast action style to Xenon
- **ROBOMAZE** Take control of the Robots
- **SANDSTORM** With scud missiles & jet fighters
- **SAVE OUR PIZZAS** Help Skunny squirrel to...
- **SNAKES & LADDERS** Enjoyable version
- **STARFIRE** Updated hi-res Space Invaders
- **TOM, DICK & HARRY** Top quality L&P game
- **TRIVIA QUIZ** Great version of the game
- **ZZT & SUPER ZZT** Adventures & puzzles

RECOMMENDED TITLES

- **CD-MAN** Great updated version of Pacman
- **FUNNY FACE** Colour Mr Potato Head for children
- **CRAZY SHUFFLE** Based on the "pairs" theme
- **PALLANDA** Simple fun game for youngsters
- **BOB THE BUILDER** Gentle ladders & platforms
- **ELECTROBODY** Laser your way through the maze
- **JUMPJET** Bomb or shoot enemy aircraft & bases
- **WANDERER** Based on the Boulderdash idea
- **SHOOTING GALLERY** Fairground stall simulation
- **KUNG FU LOUIE** Practice your martial arts
- **SHARK ATTACK** Collect treasures avoid sharks
- **MINDCUBE** Push the blocks round find prizes
- **SLITHER** New version of the Hungry Snake game
- **LLAMATRON PC** Version of the Spectrum game
- **TETRIS ADDICTS** Five different versions
- **MORAFF'S GAMES** Three great arcade games
- **SPEAR OF DESTINY** Special 2-level version
- **KEN'S LABRYNTH** 3-D Virtual reality style
- **BANDOR** Dungeons & Dragons style adventure
- **CAPTAIN COMIC** Enjoyable arcade adventure
- **HUGO'S HOUSE OF HORRORS** Sierra style game
- **HUGO II WHODUNNIT** Animated adventure sequel
- **HUGO II** Jungle Of Doom The final episode
- **DRACULA IN LONDON** Interactive role playing
- **REALM OF HAKROM** The Axe of Fargim Adventure
- **VAMPYR: TALISMAN OF INVOCATION** Challenging!
- **WEIRD ISLAND** Take part as yourself in story
- **ORION ODYSSEY** Control Wally the space flyer
- **ALIENS LAUGHED AT MY CARDIGAN** Very strange

EDUCATIONAL

- **ABC FUNKEYS** Early learning for pre-schoolers
- **PRE-SCHOOL PACK 6** Interactive activities
- **ANIMATED MATHS** Introduction to arithmetic
- **ANIMATED ALPHABET** Fun way to learn alphabet
- **COUNT & ADD** Teaches simple arithmetic at play
- **HENRIETTAS BOOK OF SPELLS** Spelling is made fun
- **HOORAY FOR HENRIETTA** Arithmetic is made fun
- **MATHS RESCUE** Combine learning maths and play
- **MONKEY BUSINESS** Delightful interactive story
- **SPELLBOUND** Arcade style spelling game
- **WHERE'S THAT MOUSE?** Interactive storybook
- **WORD RESCUE** Combine learning words and play
- **FASTYPE** Graphic, scored typing tutorial
- **TUTOR COM** Learn how to use your PC and DOS
- **MATHS TUTOR FOR WINDOWS** Interactive
- **GEOCLOCK** World Map, lat and long, time zones
- **AS EASY AS** Best selling Spreadsheet program

USEFUL APPLICATIONS

- **BROTHERS KEEPER** Popular geneaology system
- **DRUM BLASTER** SoundBlaster into a drum machine
- **ENVISION PUBLISHER** Superb easy to use DTP
- **PAGEMAKER INTRO** Full feature DTP for Windows
- **GALAXY PRO-LITE** Easy to use Word Processor
- **NEOPAINT** Very good drawing /painting package
- **PAGE CHEQUEBOOK** Monitor & control your accounts
- **ZEPHYR DATABASE** FoxPro based database manager
- **PC FILE 7** Popular database system for PC's
- **POPSAURUS** Memory -resident thesaurus
- **POWER MENU** Best selling hard disk menu system
- **PRINTPARTNER** Posters banners cards letterheads
- **SHARESPELL** Spelling checker for Windows
- **WINSPELL** Spelling checker for Windows
- **WORD TRANSLATOR** Bi-Lingual dictionary
- **READABILITY PLUS** Analyse your writing
- **WYNDFIELDS** Database manager for Windows
- **PC-DRAFT II** Drawing package like PC-Paint
- **GRAPHICS WORKSHOP** Converts picture files
- **CLIP ART COLLECTION** Over 70 assorted images
- **TOP FONTS** Scaleable fonts for Windows
- **HOME PLAN** Use to design and plan your home
- **LABEL MAKER** Easy to use for mailing lists
- **GORIN'S ORGANISER** Desktop diary planner etc
- **DOCTOR IN THE HOUSE** Medical information
- **MEALMASTER** Recipe organiser - with recipes
- **BIORHYTHMS** Plot the best time of the month
- **FOOTBALL FORECAST** Use to help predict draws
- **CROSSWORD SOLVER** Solves clues, anagrams etc
- **CROSSWORD CREATOR** Design & print out own
- **WORDSEARCH SOLVER** Helps solve the puzzles
- **WORDSEARCH MAKER** Print out your own puzzles
- **NOTEWORTHY** Comprehensive music publishing
- **MELODY MASTER** Turn PC into a music keyboard
- **SKYGLOBE** Fascinating display of night sky
- **SCREEN BLANKERS** Displays pics when inactive

FOUR WAYS TO BUY

- ❑ **PHONE 0242 224340 with your Access/Visa No**
- ❑ **FAX 0242 224614 with your Access/Visa No**
- ❑ **POST to Albany UK Ltd (PR) 252 High St Cheltenham GL50 7HF**
  (Make Cheques /PO's payable to ALBANY UK)
- ❑ **CALL IN to our STORE Mon-Sat 9am to 5.30pm**

OUR PRICES include VAT Please add £2 P&P PER ORDER (Non EEC add £5

CD-Xpress, The CD-ROM Company

CD-XPRESS

FREE! Catalogue

CD-ROM SOFTWARE

EDUCATION / KIDS

3D Dinasaur Adventure	£49
'A' Level Maths	£245
Barney Bear Goes To School	£19
Barney Bear Goes To Space	£19
Dinasaur Discovery	£29
GCSE Maths	£145
Gus Goes To Cybertown	£33
Language Discovery	£29
Lenny's Music Toons	£33
PC Globe - Maps 'N' Facts	£39
Peter Rabbit	£19
Playing with Langs. French	£49
Putt-Putt Goes to the Moon	£33
Tortoise & The Hare	£33

ENTERTAINMENT

7th Guest	£45
Adventures of Willy Beamish	£25
Battle Chess MPC	£35
Chessmaster 3000	£35
Day of the Tentacle	£35
Dune	£35
Gabriel Knight	£39
Just Grandma & Me	£33
Kings Quest V	£25
Kings Quest VI	£35
Kyrandia	£35
Loom	£25
Lord of the Rings	£39
Lost Treasures Of Infocom	£39
Lost Treasures Of Infocom II	£39
Mad Dog McCree	£35
Myst	£39
Rebel Assault	£35
Return to Zork	£29
Starwars Chess	£35
Strike Commander / Tact mission	£39
Who Shot Johnny Rock ?	£37

SHAREWARE

Libris Britannia (New version)	£39
C User Group Source	£29
CICA Windows CDROM	£15
LGX (Linux/GNU/X-Windows)	£49
OS/2 Archive	£25
Significant Windows	£9
Shareware Explorer (4 disc set)	£49
Shareware Trio (3 disc set)	£25
Simtel-20 CDROM	£15
Tech Arsenal	£29
X11R5/GNU CDROM	£35

REFERENCE

3D-Body	£49
Aircraft Encyclopedia	£29
All Music Guide	£39
Anglo-Saxons MM Learning Guide	£49
Art of Ancient Egypt	£49
Complete Dickens	£49
Compton's Interactive Ency. (1994)	£99
Darwin Complete Texts	£49
Desktop Bookshop	£45
Electricity & Magnatism	£49
Encyclopedia Groliers MPC	£79
France at its Best	£19
Global Explorer	£79
Great Literature	£55
Greatest Books Ever Written	£49
Guided Tour of Multimedia	£26
Guinness Disc of Records MPC	£29
Hong Kong at its Best	£19
Jets & Props	£29
Languages of the World	£39
Learn Fly Fishing	£25
Learn to Speak French	£65
Let's Go USA	£19
Library of The Future	£39
Living Body - An Atlas	£195
Microsoft Encarta 1994	£99
Middle East Diary	£39
National Geographic Mammals	£39
New York at its Best	£19
North American Indians	£49
Oxford English Dictionary	£495
Prescription Drugs	£45
Shakespeare Study Guide	£35
Street Atlas USA	£89
Total History (3 disc set)	£99
UFO	£39
Undersea Adventure	£49
World Atlas V4	£25
World Fact Book	£25

ART & DTP

Clipart Heaven	£17
Clipart Extravaganza (with book)	£45
CorelDraw v3	£119
CorelDraw v4	£289
Corel Photo-CD (60 titles)	£39
Corel Gallery (10,000 clipart)	£49
Fantazia Fonts (2000 fonts)	£35
Dr. Clipart	£12
Font Pro 1	£25
Font Pro 2	£25
Kodak PhotoCD	£19
Publisher Platinum	£25

A Huge range of titles in stock. New titles arriving weekly. Prices & availability subject to change without notice, please check before placing orders. Prices do not include VAT. Most orders are shipped the same day by First Class Recorded Delivery.

Delivery Charges (Per Order)
UK Mainland : CD-ROM Software £3. Hardware £8
Scotland & Ireland : CD-ROM Software £3. Hardware £12
Europe : CD-ROM Software £6. Hardware (please call)

Fax your Orders on 081-554 2768

CALL NOW ON 081-518 4151

Please send me your FREE Catalogue

Name (Mr./Mrs./Ms./Dr.) _____

Address _____

_____

_____

Post Code _____

Please tick to receive details of Adult CD-ROM Titles, (you must be over 21). ❑

CD-Xpress
2 Beal Road, Ilford, Essex IG1 4QF

HELP WANTED

I am playing Serpent Isle and am not sure how to carry out Gustacio's experiments in Moonshade. *Simon Blackwell, Surrey*

Answer: Take Gustacio's globe to the tower to the north of Moonshade. Don't confuse it with the observation platform which is nearer to the city walls. Go upstairs and place the globe on the plinth, then pull the levers. Return to him and report the results, then visit Fedablblio and use his crystal ball to find out what has happened to Edrin.

I have seen a Serpent Isle solution but it doesn't seem to be right. It says that in Moonshade, Rololuncia kidnaps Iolo. This hasn't happened. What am I doing wrong? *Sam Doesborgh, The Netherlands*

Answer: Nothing. Rotoluncia will kidnap one of your friends, but not necessarily Iolo (in my case, it was Shamino who was taken). To get to this stage, talk to Bucla about Pothos' resemblance to Erstam, then speak to Pothos about reagents and blood moss. Go and gather the moss from the swamp and take it to him. The kidnapping will then occur.

I am playing Ultima VII and I can't find Hook in Buccaneer's Den or on the Isle of the Avatar. *Sam Doesborgh, the Netherlands*

Answer: In Buccaneer's Den you'll find Hook's home, where he keeps the Black Gate key. This will get you into the dungeon on Avatar Isle. Look for the secret passage behind a wall curtain in the top left of the room. When you finally reach the Black Gate, you'll find Hook along with Abraham, Elizabeth and Forskis.

Recently I bought Indiana Jones and the Fate of Atlantis and although it is absolutely brilliant I have come to a grinding halt. I am playing the wits path. The problem lies in Crete. I have opened the secret entrance with the moon and sun stone and have just acquired the world stone from Sternhart. I don't know what to do next. I can't open either of the gates in the caves either. Please can you help me? *Mustafa Khanbhai, London*

I am playing Wizardry 7 and am two levels below Munkharama where there are four gates. All have water behind them, but despite having numerous keys, I can't get through any of them. How do I get through to the Holy City to get the Orb?
Also, I can't find the entrance to the secret passage in New City to find the map left by Barlone. *Malcolm Reader, Kent*

I am hopelessly stuck in Space Quest 5. I can't get the co-ordinates to get off the spaceship. Please could someone tell me where to find them? *Ian Govan, Scotland*

I am having trouble with some riddles in the Unshrine in the game Legend. Can anyone help? *James Haywood, London*

Simon the Sorcerer is driving me round the bend. I'm in the goblin village and want to know how to turn the druid into a frog. Also, Is there any way of opening the forge door? *"Desperately Seeking Simon"*

Answer: Place the bucket with the hole in the bottom over the druid's head, then use the brand on it. The druid will think he's looking at a full moon and will then turn into a frog. And no, you can't open the forge door.

Please could you answer the following questions about Alone in the Dark?
1. How do I get past the worm creature in the tunnel by the cellar?
2. How do I defeat the pirate?
3. What am I meant to do in the library?
4. What do I do with the heavy statue and the carpet? *Mark Walker, Surrey*

Answer: 1. You don't. There is another way underground.
2. Use the sabre or the sword to defeat the pirate. This is tricky, so save your game first. Don't worry if the sabre breaks – you can still kill him with the hilt. Just make sure you pick up the blade afterwards as you need this later.
3. There's a secret passage in the library. Check the shelves to find a mechanism. You'll find a fake book in the room at the end of the gallery, so use this with the mechanism to open the door. Go inside and take the talisman and the knives. Use one of the knives to kill the monster in the library.
4. Throw the statue at the suit of armour to make it drop the sword. Place the rug over the portrait of the axe thrower in the gallery, then fire an arrow at the picture of the Indian at the far end.

We have been playing Sam and Max since Christmas and are very stuck. We can't find Frog Rock and we are unable to get at the loose end of the Ball of Twine. Also, what do you do at the World of Fish? *Julian, Stephen and Robert Barlow, Wakefield*

I am stuck on part one of Monkey Island 2. Please could you tell me how to get Largo Lagrande's spit off the wall of the bar so that I can make a voodoo doll of him? *Edward Zuccollo, New Zealand*

DIRECT SOFTWARE

REGULAR FREE GIVEAWAYS WHEN YOU BUY FROM DIRECT.

Dept PCR 06SC Unit 3, Cross Keys Shopping Mall, St Neots, Cambridgeshire PE19 2AU TEL: 0908 379550 Fax: 0908 277142

UNDER NEW MANAGEMENT
WE DO NOT CHARGE VISA UNTIL DAY OF DESPATCH

PC TITLES

A10 Tank Platoon	25.99
A320 Airbus (Edition Europa)	27.99
A320 Airbus Approach Trainer	25.99
A Train	25.99
A Train Construction Kit	22.99
Aces of the Pacific HD VGA	23.99
Air Combat Aces	19.99
Air Commander	21.99
Air Sea Supremacy Compilation	22.99
Alone In The Dark 2	27.99
Alien 3	19.99
Ambermoon	21.99
Animation Classics	29.99
Animation Package	29.99
Armour Geddon	24.99
Arcade Pool	12.99
Armaeth	19.99
B17/Dogfight	31.99
BAT 2	24.99
Bane of The Cosmic Forge	24.99
Battlechess 4000	19.99
Battles of The South Pacific	28.99
Battle Isle 2	25.99
Betrayal At Krondor	25.99
Bloodnet*	27.99
Blues Brothers Juke	19.99
Blue Force	25.99
Body Blows	19.99
Breach 3	25.99
Burning Rubber	19.99
California Games	23.99
Carmen USA Deluxe	25.99
Carrier Strike	24.99
Castles 2	21.99
Celtic Legends	21.99
ChampionshipManager '93 /Champ Man '94	18.99
Champ Manager Italia	16.99
Chess Maniac	22.99
Chessmaster 4000 Turbo	19.99
Civilisation	23.99
Colossus Compilation	17.99
Commanche Maximum Overkill	24.99
Companions of Xanth	25.99
Complete Chess 15K	16.99
Conquered Kingdoms	27.99
Creation	32.99
Creepers	17.99
Curse of Enchantia	16.99
Cyberspace	23.99
Daemonsgate	21.99
Dangerous Streets	16.99
Dennis	19.99
Dennis and Gnasher	24.99
Delta 5	28.99
Detroit	25.99
Diggers	22.99
Doom	22.99
Dr Brain 2	26.99
Dragonsphere	27.99
Dreamweb	24.99
Dune 2	21.99
Dungeon Master 2	25.99
Elite Deluxe	24.99
Epic	21.99
Evasive Action	22.99
Even More Incredible Machines	25.99
Eye of The Beholder	26.99
Eye of The Storm	19.99
E.P.S. Pro Football	25.99
F1	19.99
F14 Fleet Defender	28.99
F117A Nighthawk EGA/VGA	24.99
F16 Strike Eagle 3	25.99
FA Premier League Football	18.99
Falcon 3.0/F15	31.99
Falcon 3.0/mig 29	15.99
Fatman	16.99
Fine Artist	31.99
Flight Sim 4	34.99
Flight Sim 4 (Zone 1 - France)	22.99
Flight Sim 4-Flight Adventure 701	22.99
Flight Sim 4-Flight Planner	20.99
Flight Sim 4-Rescue Adventure 685	20.99
Football Manager 3	19.99
Fantasy Empires	21.99
Football Manager 3	19.99
Fantasy Empires	21.99
Freddy Pharkus Frontier Pharmacist	24.99
Fun School 4 U5, 5-7, 7-11Each	16.99
Fury of The Furries	21.99
Genesia	22.99
Global Domination	25.99
Goblins3	25.99
Grandest Fleet	28.99
Grandslam 2 Wind	28.99
Graham Gooch Cricket	22.99
Hanna Barbera Animation	29.99
Harrier/Taskforce	31.99
Hardball 3	21.99
Hardball 4	22.99
Harrier Hayes	28.99
Harrier/Taskforce	31.99
Head To Head (F15 & Mig 29)	24.99
Hired Guns	26.99
History Line 1914-1918	24.99
Home Alone 2	19.99
Imperial Pursuits	25.99
Inca 2	27.99
Indy Car	27.99
Indy Fate of Atlantis Arc	18.99
Indy Fate of Atlantis Adv	24.99
Inferno - The Odyssey Begins	TBA
Innocent Until Caught	23.99
International Rugby Challenge	19.99
International Sports Challenge	21.99
Jetfighter 2	30.99
Jetstrike	16.99
Jimmy Whites W/wind Snooker	19.99
John Madden 2	18.99
Kasporovs Gambit	28.99
KGB	22.99
Kids Rule OK	9.99
Kingmaker	24.99
Kings Quest 6	30.99
Krustys Funhouse	19.99
Kyrandia 2	22.99
Lamborghini	19.99
Leisure Suit Larry 6 VGA	27.99
Laser Squad	20.99
Leather Goddess 2	21.99
Legacy of Sorasil	22.99

TOP 50 CHART

Alien Breed 2	19.99
Alone In The Dark and Jack	27.99
Award Winners 2	22.99
B Wing	13.99
Cannon Fodder	22.99
Championship Manager '93	19.99
Championship Manager '94 Add on	6.99
Chessmaster 4000	22.99
Combat Classics	22.99
Cyberworlds	17.99
Darksun	28.99
Day of The Tentacle	27.99
Eye of The Beholder Trilogy	27.99
Fields of Glorys	27.99
Flashback	24.99
Flight Simulator v5	25.99
Football Pro	25.99
Frontier (Elite 2)	24.99
Gabriel Knight	25.99
Goal	19.99
Grand Prix	28.99
Hand Of Fate	25.99
Imperial Pursuit	12.99
Innocent	28.99
Jurassic Park	22.99
Lands of Lore	22.99
Lemmings 2 The Tribes	12.99
Leisure Suit Larry 6	27.99
Lords of Power	25.99
Links 386 Pro	29.99
Mortal Kombat	21.99
Magic Boy	16.99
Monkey Island 2	22.99
Pinball Dreams	22.99
Pinball Fantasies	22.99
Police Quest 4-	25.99
Privateer	25.99
Premier Manager 2	12.99
Return To Zork	29.99
Sensible Soccer 92/93	21.99
Settlers	25.99
Scrabble	19.99
Simon The Sorcerer	25.99
Sim City 2000	25.99
Space Legends	22.99
Striker	19.99
Strike Commander	26.99
Tornado	26.99
T.F.X.	22.99
Underworld 2	26.99

BLANK DISKS

20	£11.00
50	£20.00
100	£33.00
250	£73.00

Prices Uk Mainland Prices inc. P&P

Frontier (Elite 2) £24.99

Ultima 8 £26.99

DOOM £22.99

BENEATH THE STEEL SKY £21.99

X-WING £27.99

DIRECT SPECIAL OFFER BOX

Brutal Sports Football	9.99
Buzz Aldrin in to Space	12.99
Cyber race	14.99
Dvorak Teaches typing	7.99
Flashbaack	£14.99
Horror Zombies	7.99
Kings Quest 5 (Bundle)	12.99
Legends of Valour	9.99
Lemmings	7.99
Lemmings 2	12.99
Life & Death 2 (Bundle)	7.99
Legacy	12.99
Mavis Beacon Teaches Typing	7.99
Moonshine	7.99
Micro machines	19.99
Premier Manager 2	12.99
Police Quest 3	10.99
Robin Hood (Millenium)	9.99
Space Quest 1	9.99
Strike 2	7.99
Special Forces	9.99
Thundersrike	7.99
Titus The Fox	9.99
Wing Commander (Bundle)	9.99

PC TITLES

Legacy/Phantom	31.99
Legend	20.99
Legend of Kyrandia VGA	21.99
Legend of Myra	18.99
Litil Divil	25.99
Lords of Power	25.99
Lost in Time	27.99
Lotus 3	19.99
Maelstrom	25.99
Magic Boy	16.99
Man Utd Prem Champions	19.99
Mario is Missing	25.99
Mario's Time Machine	25.99
Master of Orion	27.99
Match of The Day	19.99
Mean Arenas	19.99
Mercenaries	19.99
Micheal Jordan in Flight	22.99
Microprose F1 GrandPrix	25.99
Microprose Golf (David Ledbetters)	16.99
Micromachines	19.99
Millenium Return VGA	21.99
My First World Atlas	22.99
Network Q RAC Rally	22.99
NFL Coaches Club Football	25.99s
NFL Football	25.99
NHL Hockey	28.99
Nick Faldo's Open	19.99
Nigel Mansell World Champ	19.99
Noddy's Big Adventure	19.99
Noddy's Playtime	19.99
Omar Sharif's Bridge	21.99
Oregamo	27.99
Overdrive	19.99
PGA Golf + Courses	21.99
PGA Golf + Courses (Windows)	23.99
PGA Plus	25.99
Pacific Islands (T Yankee 2)	21.99
Pacific Strike	28.19
Pacific Strike Speech Acc Pack	12.99
Pacific Worlds	23.99
Perfect Trilogy	27.99
Pirates Gold	22.99
Police Quest : Open Season	25.99
Populous & Promised Lands	10.99
Populous 2 +	25.99
Populous II	25.99
Powergame 2	22.99
Power Tactics	19.99
Prehistorik 2	16.99
Prince of Persia 2	25.99
Private Righteous Fire	12.99
Print Shop Deluxe	TBA
Quest For Glory 4	25.99
Rags To Riches	25.99
Ragnarok	24.99
Railroad Tycoon Deluxe	26.99
Reach For The Skies	23.99
Red Baron VGA	24.99
Rise of The Robots VGA	27.99
Rise of The Robots SVGA	27.99
Roger Rabbit (Hare raising Havoc)	19.99
Rules Of Engagement 2	28.99
Rugby League	19.99
Ryder Cup	19.99
Sam & Max Hit The Road	27.99
San Francisco	25.99
Seal Team	22.99
Seawolf	28.99
Shadowcaster	27.99
Shadow President	25.99
Shadow Of The Comet	22.99
Silent Service 2	12.99
Sim Ant	21.99
Sim Earth	13.99
Sim Earth (Windows)	19.99
Slater&Charlie	22.99
Space Quest Trilogy	33.00
Space Quest V	23.99
Spear of Destiny	23.99
Star Control 2	26.99
Star Trek 2 Last Rites	25.99
Star Trek 25th Anniversary	24.99
Starwars Chess	29.99
Starreach	25.99
Street Fighter 2	19.99
Striker	19.99
Strike Squad	24.99
Stronger Hold	22.99
Stunt Island	27.99
Super League Manager	19.99
Subwars 2050	27.99
Super VGA Harrier	27.99
Suburban Commando	15.99
Suzuki GP Win Run 2	19.99
Syndicate	28.99
Task Force 1942	25.99
Tactical Manager (Eng)	22.99
Tactical Manager (Ger)	22.99
Tactical Manager(Italy)	22.99
Tegel's Mercenaries	23.99
Terminator 2 - The Arcade Game	19.99
Terminator Rampage	21.99
Tesserae	19.99
Tracksuit Manager 94	15.99
Traps And Treasures	19.99
The Blue & The Grey	25.99
Theatre of War	22.99
Tim Robot	25.99
Tiny Toons	25.99
Total Carnage	17.99
Triple Actions	16.99
U96	23.99
U.F.O.	28.99
Ultima 7 (The Black Gate)	23.99
Ultima 7 (The Serpent Isle)	25.99
Ultima Trilogy 2	24.99
Ultima 8 SAP	26.99
Ultimate Pinball	19.99
Unneccessary Roughness	25.99
V For Victory 1 (Utah Beach)	23.99
V For Victory 2 (Russian Front)	21.99
V For Victory 3 (Market Garden)	25.99
V For Victory 4	28.99
Victory At Sea	28.99
Valhalla	21.99
Veil of Darkness	21.99
Victory At Sea	TBA
Virtual Worlds	25.99
Ween	21.99
Whales Voyage	14.99
Wing Commander 2	26.99
Wing Commander 2 Special Ops 1	9.99
Wing Commander ACA	22.99
World Atlas 4.0	32.99
Xanth	25.99
X-Wing	27.99
Xenobots	25.99
Zool 2	16.99

*** FREE * WHEN YOU SPEND £50 OR MORE ON PC 3.5 OR CD ROM GAMES YOU RECIEVE A ZOOL * FREE ***
(While stocks Last Only)

CD ROM TITLES

7th Guest	28.99
A320 Airbus	22.99
A320 Airbus USA	22.99
Advantage Tennis	19.99
Alone in The Dark and Jack	28.99
Animals in Motion	9.99
Battlechess	28.99
Battles Of Time	19.99
Beneath A Steel Sky	31.99
Betrayal At Kryandia	31.99
Big Green	44.99
Campaign 2	25.99
Castle 2	31.99
Commanche Max Overkill	27.99
Conspiracy	28.99
Cover Girl Poker	22.99
Challenge Pack	25.99
Cyberace	19.99
Cyberworlds	17.99
Day of The Tentacle	26.49
Dracula Unleashed	31.99
Dragonsphere	25.99
Dune	28.99
Eye of The Beholder Trilogy	29.99
Fabulous Fuzzbox	31.99
Fist Fighter	9.99
Frankenstien	15.99
Football Crazy	16.99
Gabriel Knight	28.99
Gateway 2	22.99
Goblins 3	31.99
Green Disk MPC	49.99
Hi Tech Aircraft	38.99
Hound of The Baskervilles	9.99
Inca 2	35.99
Indi Jones	29.99
Inferno	31.99
International Soccer	9.99
Iron Helix	25.99
Jack The Ripper	27.99
Journeyman	25.99
Jurassic Park	25.99
Kings Quest 6	30.99
Labyrinth of Time	25.99
Lands Of Lore	28.99
Lawnmower Man	32.99
Lemmnigs 1&2	19.99
Leisure Suit Larry 6	27.99
Lord Of AThe Rings	27.99
Little Divil	25.99
Lost In Time	27.99
Lost Treasures Of Infocom	19.99
Lovers Guide	25.99
Mario is Missing Deluxe	28.99
Man Utd Premier Champions	19.99
Match Of The Day	19.99
Microcosm	31.99
Myst (Windows)	31.99
Nick Faldos Golf	25.99
Oceans Below	25.99
Police Quest 4	28.99
Psycho Killer	9.99
Quest For Glory 4	28.99
Quest And Fun	19.99
Rebel Assault	29.99
Return To Zork	31.99
Ryder Cup	22.99
Sam and Max	29.99
Shadow of The Comet	26.99
Shadow Caster	31.99
Sim City	31.99
Space MPC	25.99
Star Trek 25th Anniversary	31.99
Starwars Chess	38.99
Strike Commander	31.99
Sub War 2055	31.99
T.F.X.	29.99
Tornado	29.99
Total Carnage	18.99
Town With No Name	9.99
Turning Points	22.99
Ultima 8 SAP	13.99
Ultima 7 complete	28.99
UMS Compilation	27.99
Winter Olympics	27.99
Wolf Pack	26.99
Women In Motion	9.99

WE WILL MATCH PRICES !! "NEVER BEEN BEATEN" TRY US

Please charge my Access/ Visa No: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ Expiry Date ☐☐/☐☐

Please supply me with the following for computer:.....

Titles	Price
TOTAL	

PC REVIEW JUNE 1994

Date: .....
Name: .....
Address: .....
.....
.....
.....
.....
.....Postcode: .....
Tel No: .....

Please make cheques Payable to : DIRECT SOFTWARE LTD
DEPT No PCR/06SC
Unit 3, Cross Keys Shopping Mall
St Neots, Cambridgeshire
PE19 PP2AU

POST & PACKING
UK-Mainland Free
EEC £3.00 per item
Non EEC £4.50 per item

All Parcels Are Sent by Recorded Delivery. All items subject to availability. All prices subject to change without notice E & OE
Please Note:
Some Games May Not Be Released At The Time Of Going To Press
PC REVIEW JUNE1994

Empire Soccer vs FIFA Soccer

In less than one month's time the world's best football teams will gather in the good old US of A, all hoping to hack, dribble and dive their way to World Cup glory. Of course, this has not gone unnoticed by the software industry and despite the fact that England, Scotland, Wales and Northern Ireland all failed to qualify, there are more football games on the way than you can shake a 70,000 seater stadium at.

First up is Empire Soccer '94, a lighthearted, arcade football game based around the World Cup. Using a traditional overhead viewpoint, the game presents you with an impressive set of options which enable you to play in the World Cup tournament, a single exhibition match or practice in training. There are 32 national teams to choose from and, like most modern football games, you can tweak your team formation and change individual skill ratings. There are also the usual extra time option, penalty shootouts, bookings, a statistical analysis of your performance (goals scored, fouls, corners won, etc) at half and full time, simple, cartoon style graphics, over 400 frames of animation, and a number of 'sillier' touches including elaborate player animations and little cartoons of furious managers and depressed players.

However, probably the most eagerly awaited football game (apart from Sensible Software's forthcoming World of Sensible Soccer) must be the PC version of the Sega Megadrive hit, FIFA International Soccer, from Electronic Arts.

Usually there's not really anything new you can say about football games. But as you can see from the screenshot, right, FIFA International Soccer's biggest selling point is the way it looks. Played using an isometric style top-down perspective, FIFA Soccer is an arcade game that gives the player a huge view of the pitch. With over 2,000 frames of animation, the superbly drawn players move realistically, performing all manner of 'real' actions including bicycle kicks, sliding tackles, diving headers and nifty little back-heels.

FIFA International Soccer captures the football atmosphere better than any game I've seen. The game is so detailed that if you make a particularly harsh tackle on a player, he will writhe about on the floor in agony while you are booked by the ref.

As for the game mechanics, FIFA allows you to choose any of 48 national teams, of which many have their own unique playing styles and abilities. Selecting attack and defence strategies, players can customise their own team, producing the best side possible for friendlies, tournaments or full league games.

But what FIFA is best at is providing frantic, attractive football action and I feel that any other football game (including the 'official' World Cup game from US Gold) is going to find it hard to beat. I may be a Sensible Soccer fan at heart but my tip for football glory this year has to be FIFA International Soccer.

■ **Dean Evans**

FAXBOX

EMPIRE SOCCER '94

Developer:	Empire
Publisher:	Empire
Release date:	June
Genre:	Football game
Minimum PC:	£TBA

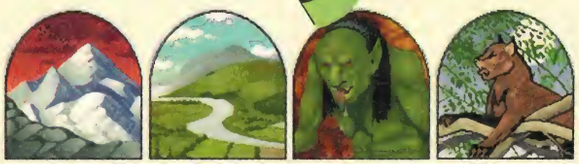
FAXBOX

FIFA INTERNATIONAL SOCCER

Developer:	EA Sports
Publisher:	Electronic Arts
Release date:	June
Genre:	Football game
Minimum PC:	£TBA

Top and middle: Empire Soccer '94 takes a fun look at football. Above: FIFA International Soccer brings a fresh new look to PC footy games.

Lords of Midnight: The Citadel



The long-standing rumble that there are no original ideas for games these days gains credence when you look at the current fashion for giving golden oldies a makeover for the 90s. The old Gargoyle Games adventure, Tir Na Nog is currently in development, as is a brand new version of Activision's Pitfall, but in Lords of Midnight: The Citadel, one of the all-time greats is back.

The Citadel is a new chapter in Mike Singleton's classic saga, which veterans of 8-bit days will remember was originally made up of two games: Lords of Midnight and Doomdark's Revenge (the planned third game, Eye of the Moon, never appeared). Taking place many years after Doomdark, The Citadel opens with an aged Luxor held hostage by Boroth the Wolfheart, and Prince Morkin setting out on a covert rescue mission.

As the player, you control six characters from four parties: Prince Morkin and the Lord of Dreams, starting on the river Imilvir, north of Glimormir; Rorthron the Wise, who is approaching Rilleon west of the Long Mountains; Corleth and the young Lord Blood, in the Citadel of Maranor, and finally, Luxor himself, imprisoned somewhere in Maranor. As you play, you will recruit more characters to your parties. The ultimate aim is to eliminate Boroth Wolfheart while keeping alive at least one member of the House of Moon: Luxor, Prince Morkin, Corleth or Anderlane of the Arakai (first, you must recruit Anderlane to the cause).

The gameplay is designed to be flexible. You can control just one character throughout, in which case the other players on your side will make their own independent decisions and you can still keep track of them. You can also switch roles from time to time, or control all six major characters, in which case they won't make their own decisions and all moves are synchronised at the day's end.

The tourist route

The Citadel is designed to be more complex than the original Lords and with an intuitive, mouse-driven interface, but the first thing to grab your attention will probably be the graphics. Those who know Mike Singleton's Midwinter games will recognise the technique used, but they have come on some way since then, and the Blood March is undeniably scenic — a tourist's delight. The passing of time is also shown on-screen, with sunrises, sunsets and nightfall, and even the passing of the seasons — these again are linked to the computer's real-time clock, so if you start playing in June, when the game due to be released you'll enter the Blood March in mid-summer. Try altering the date on your PC, then using this month's cover disk and you'll see for yourself.

The Citadel contains many more polished extras than the 1984 original. It has a bestiary, detailing the creatures you will find in the game world; it has a diary showing the days and months of the Blood March year; it has a full graphic map of the lands; and it has a pictorial list of the cast of characters to help you keep track of who's who. Again, our cover disk has a sample of these.

The Citadel will undoubtedly appeal most to those who have fond memories of Lords of Midnight from their Spectrum-playing youth, but Mike Singleton has put a great deal of effort into creating a full stand-alone game which should be appreciated by those who are relatively new to computer games as well.

■ **Christina Erskine**

FAXBOX

LORDS OF MIDNIGHT: THE CITADEL	
Developer:	Malestrom
Publisher:	Domark
Release date:	early June
Genre:	Strategy
Minimum PC:	£34.99

KEEPING TIME

Time plays an important part in The Citadel, with the program linked to your PC's internal clock. In a 'time-locked' game, game-time days are synchronised with real-time days. If you stop playing and come back to The Citadel, say, three days later, you will find that three days have also passed in the game and your characters will have spent three game-days making their own decisions, travelling, and so forth.

In a 'time-linked' game, a playing session is limited to one day of game-time. If you leave the game for more than day without playing, you will come back to it in the next game-day, making it a less severe option than the time-locked variant.

And the story so far ...

Luxor has been captured because rumours had reached the Land of Midnight that the magical jewel the Eye of the Moon had been found in Coromand, a land far to the south. Since the Eye gives dread power to those who know how to use it, its discovery puts the safety of Midnight in danger, so Luxor, despite his great age, sets off to retrieve it, accompanied by his grandson Corleth, Lord Blood and his eldest son and a small band of warriors of the Free.

The party has been captured by Boroth and his cohorts, and many killed, including Lord Blood (the elder — the Lord Blood you control is his son). Apart from Luxor, the survivors were sold in the slave market. But Luxor, thanks to his status, is being kept alive, and Prince Morkin has a hefty ransom to pay. Boroth has warned the prince that any attempt to wage war to reclaim Luxor will result in his death.

This is a land populated by all manner of wildlife. The passing of the seasons is also shown on-screen: the picture, below right, was taken in high summer.

DOOM 2: Hell on Earth

A wish list for the second coming ...

It's hardly surprising that Id Software's Doom won Overall Game of the Year at last month's ECTS games industry awards. True, there were some rather forced grins from commercial games publishers as they had to concede that, yes, the most innovative and – arguably – technically advanced game of the past twelve months came from a small(ish) shareware background.

So having played Doom to death, when do we get to see a follow-up? Well, it's too early for any preview material or pictures as yet – we'll have to wait for a forthcoming issue. But according to Jay Wilbur, Id's business manager, it's not going to be too long. Doom 2: Hell on Earth is due out of the gates of Id's Texan ranch in August.

And there won't be a shareware version. Jay Wilbur is keen to point out that Doom 2 will be a full commercial product, to be released on both floppy disk and CD-ROM (though which format first is still to be finalised), and published by GT Software in the US, and under licence in Europe.

Improving Doom is going to take some doing, though. But here's what your hardworking and perfectly normal games reviewers would like to see in Doom 2, the sequel:

Dean Evans

First and foremost, Dean thinks Doom 2 needs vehicles. Vehicles you can shoot at, vehicles you can drive, and vehicles you can shoot other vehicles in. Oh, yes, and vehicles you can run people over with, with that particularly nice squelchy sound peculiar to exploding corpses in Doom. M1 Tank Platoon with chainsaws, perhaps?

Dean also suggests 'wingmen' would be handy (what do you expect from a flight-sim addict, after all?). An extra platoon to dispatch ahead of you — or to cover your rear — using the automap to control them (*a la* Space Hulk).

Dean also feels that you should be able to collect your opponent's weapons in a network or serial-link game — after you've stopped and said hello. And before shooting him.

Civilians, he adds as an afterthought. Lots of innocent civilians to get caught in the crossfire — accidently, of course.

Cal Jones

Cal doesn't want much out of life — or Doom 2. No, all she wants is a vast array of more people to kill, 'more' in the sense of greater variety, and more also in the sense that she would also like more than four players in a network game. After all, the more people she can ambush with her trusty chainsaw, the better.

Other than that, Cal would like to be able to set traps such as mines and trip wires for demons and other players to walk into. She also wants to get her grubby hands on a motion tracking scanner (what is this, Aliens?) which she thinks should be hidden in the same way as big weapons, supercharges and so on.

Cal is definitely in the 'look up and down' camp, where you can control vertical as well as horizontal panning, but she'd also like to be able to scale walls and jump.

Like Dean, she wants to be able to pick up enemy weapons in the Deathmatch game.

Paul Boughton

Paul wants to be able to jump and climb, as well as to look up and down properly. Plus, he's a big fan of the idea of traps, both laid by the player and hidden in the game itself.

Paul's final comment had something to do with decapitation. One thing led to another, and lo and behold it was agreed — at least by Paul, Dean and myself — that you should be able to wound the opposition. The general idea being that you'd have a demon hopping after you shouting, "Come back, it's only a flesh wound".

John Bennett

A padded cell, beer on tap and Doom 2 — I'm all for it. It'll never happen, but I've one particular wish: famous faces on monsters. Ah, the chance to take a chainsaw to John Major ...

Actually, I hope Id doesn't go and change the control system so you can control looking and shooting up and down, to be honest — I think that would just over-complicate the game, rather than improve it.

On the other hand, I'm all for hidden traps — of the Prince of Persia 2, scything blades, trapdoors and falling lumps of masonry variety to add some extra suspense. Put one foot wrong in the dark, and catch a spear in the head. The only thing with this is that you'd have to be able to duck and jump to avoid traps — which may make the control system too complicated again.

Christina Erskine

Christina has never really got her head round Doom — on the somewhat spurious grounds that "someone's got to stop playing that damn game and produce the magazine".

As far as Doom 2 goes, Christina wants to see a self-destruct button, and the ability to put preservation orders on buildings in SimCity 2000, which is completely beside the point.

WHERE WOULD WE BE WITHOUT WEAPONS?

For some completely inexplicable reason, the first thing that sprang into everyone's minds was the weaponry. Within seconds we had a wish list of hardware that would send your average terrorist organisation home with a migraine.

These included very big guns, land mines (with or without timers), hand grenades, fragmentation grenades, even bigger guns, piano wire, flame throwers, machetes, throwing axes and crossbows. Flame throwers were the most popular choice — with various references made to Syndicate and the sadly omitted 'frying dogs and babies' scenario.

Sim Analysis

Entries are flooding in to our Sim City 2000 competition. Cal Jones gives five more victims the psycho treatment.

How much can tell about someone from the cities they build in Sim City 2000? Back in our April issue we asked you to send in the best cities you could create in 50 years, and the best and worst entries would be singled out for analysis. Here are five of the most interesting cities we've seen this month.

SUBJECT ONE:

Angus Morrison of Dundee, Scotland

Dolphin City isn't outstandingly big, but what it lacks in quantity it makes up for with quality. Angus has made sure that his citizens can get about easily — he has provided highways, buses, trains, and airport and an underground system. Either Angus is a go-ahead kind of chap or else he worries a lot about being late for work.

In addition, Dolphin City has a several parks, a museum, two marinas and two zoos. Angus obviously enjoys his leisure time and hates getting bored. Although Angus has been playing with the disasters off, he hasn't taken out any bonds and has $11,350 left over — quite a feat. He must be very organised!

SUBJECT TWO:

Ian Cowie of Unst, Shetland

Ianville is this month's biggest city (population 37,000) and has many large buildings including theatres, historic offices, a college, numerous condos and a sea port. Is Ian trying to make up for living in such a remote area? Unfortunately, Ian's airport was destroyed because he sportingly played with disasters on — he obviously enjoys a challenge and doesn't mind taking a few risks.

Ian's transport system is interesting: roads are straight but there are many dead ends. This tells me that Ian often tries to plan things, but they don't always turn out the way he envisaged. Note also that he's built his house next to the railway — bit of a trainspotter, perhaps? Ianville is an impressive city on the surface, but is let down by the fact that Ian has taken out a ridiculous amount in bonds to build his metropolis. Very underhand.

SUBJECT THREE:

Kevin Adams of Chelmsford, Essex

Kevtown is the smallest entry so far (I don't like to think how this reflects on Kevin) with a population of 4,180. Not only is it small, but it also lacks facilities: the park and library are the only notable additions. Since Kevtown covers so little of the map, land values are high. However, unemployment is astronomical. Is Kevin lazy, perhaps, or is he simply bad at managing his resources? Still, to his credit, Kevin hasn't taken out any bonds and he's been playing with the disasters on, so he is at least honest. Good luck to you, Kevin, you may well be on for that mystery booby prize.

SUBJECT FOUR:

James Thompson of Grantham, Lincolnshire

Bumpusville is a small but well structured town which consists mainly of low-rise buildings — but that's hardly surprising because James is only eight years old and thus a bit low-rise himself.

The power stations are hidden well away from the houses, so James must be environmentally aware. He also seems to have a thing about water pumps, but I won't comment on that.

Bumpusville (James must be a Sam and Max fan), doesn't have all that many amenities — just a small airport, a college and the usual schools, police stations, fire stations and hospitals. Having said that, the standard of education in Bumpusville is high, so James obviously cares about his schooling.

SUBJECT FIVE:

Frank Borreson of Moss, Norway

We've had several entries from overseas, but the best has to be Norge (patriotic, aren't we, Frank?), a large and attractive city with plenty of amenities. Norge has a number of impressive buildings, including condos, office blocks, malls and car parks.

Strangely (well, it seems strange to me, anyway), Frank has dedicated the largest, shiniest office tower to PC Review — he obviously isn't familiar with the EMAP shack! I get the feeling that Frank often tries to get what he wants through flattery. It doesn't always work, mind you.

Even more oddly, Frank has placed a sign saying "Water" in the middle of the sea. I guess he's a bit of a joker, or at least he likes to think so.

Norge has no major defects: unemployement is low, the people are well-educated and healthy and crime and pollution are average. However, Frank has taken out $30K in bonds and even then he doesn't have much money left in the bank. He should be very wary of getting into debt. Still, this isn't a bad effort.

For details of how to enter the Sim Analysis competition, see over the page.

COMPETITION

Coming Soon

There's no shortage of PC games in development at the moment. Role-playing epics, adventures, arcade games, you'll find them all in PC Review's gigantic summer preview.

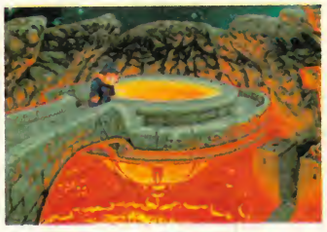
Core Design is releasing Heimdall 2, the follow up to the Norse arcade adventure Heimdall. The gaming world will be smaller than in the original but there will be more puzzles and improved combat.

Elite's conversion of the furious arcade driving game Powerslide is due out on PC late this autumn, complete with various courses and spectacular skids. Fasten your seat belts and get ready to burn rubber ...

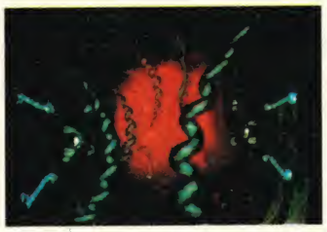
After the success of Frontier: Elite II, Gametek is releasing another space combat simulation, entited Star Crusader, in the X-Wing mould. It's due for release towards the end of the year.

Origin's System Shock is a first person perspective science fiction action-adventure from the same team which brought you Ultima Underworld, Looking Glass Technologies. To be released in June.

Software Business's Club Call: The Manager is a football management game in the Premier Manager style. You'll have control over tactics, team selection, ground improvements and the transfer market.



Adventuresoft's sequel to its comic adventure, Simon the Sorcerer, is due out this autumn. In Simon 2, you'll meet many of the same characters (the Swampling, for example, is now running a hamburger bar).

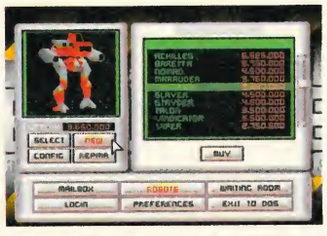


Set in 2094, Hell is a cyberpunk-meets-the-Devil thriller inwhich you play a fugitive wanted for ill-defined sins against the state. Available from Gametek, Hell is due for release later this year.

Bioforge is the first in a planned series of interactive movies from Origin. This sci-fi mystery combines Hollywood filming techniques with computer generated graphics, and is due out in July.

Gremlin's Desert Strike was a huge hit on the Megadrive, and now the arcade-style helicopter game has landed on the PC. It's a shoot 'em up with a strong tactical element and is out this summer.

Quarantine is a first person combat driving game in which you must escape from a violent city, with both action and adventure-style elements. Available from Gametek in October on floppy and CD-ROM.



Sierra's Battledrome is a Virtual Reality arena in which huge armoured robots battle it out for supremacy. You can take oneither computer or human controlled opposition, and it's modem compatible.

Rack 'em up with Arcade Pool, Team 17's budget simulation. As well as playing the established rules of Pool, it also features many variants of the traditional game including the pub favourite, Killer.

PC CHARTS

Overdrive is a mid-priced arcade style racing game from Team 17 with over 20 different racing tracks, up to six cars on-screen at once, and a head-to-head option for two players. Due to be released at the end of May at £29.99.

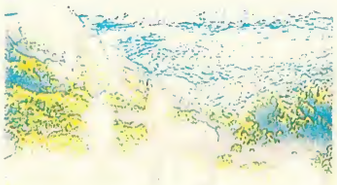
Late night TV show hostess Vera Cyntex invites you on to her show to compete for the title of Mr/Ms Flesh 2000. Is this a challenge you can possibly turn down? Daze is launching this raunchy adult game later this year.

The Chaos Engine is the thinking man's shoot 'em up: a game of tactics and action. This Bitmap Brothers title has a strong 'steampunk' scenario and is scheduled for release this month.

In the sleepy town of Harvest lurks an unknown horror ... Harvester is a stunning-looking adult adventure from American-based company, Merit. Merit is hoping to open an office in the UK very soon.

Superhero League of Hoboken is a zany sci-fi adventure from Steve Meretzky, and features characters such as Dr Entropy, Steroid Man and Captain Excitement. Available from Accolade in June.

21st Century Entertainment is releasing an add-on disk for the successful Pinball Dreams. It features four new tables: Neptune, Stall Turn, Safari (pictured) and Revenge of the Robot Warriors.



Maxis, famed for its Sim games, has branched out with a CD adventure, Wrath of the Gods. Set in Ancient Greece, it features full speech and video footage, as well as plenty of exploration and puzzle-solving.

From Coktel Vision comes Veltion, a smooth-looking Inca-style action-adventure set in space. It will come on CD-ROM only with a choice of VGA or SVGA graphics, and is scheduled to reach the shops in October.

Disk-based games

1. SimCity 2000 *Maxis*
2. UFO *MicroProse*
3. Flight Simulator 5 *Microsoft*
4. Beneath a Steel Sky *Virgin Interactive*
5. F14 Fleet Defender *MicroProse*
6. Elder Scrolls: Arena *Bethesda/US Gold*
7. Pagan: Ultima 8 *Origin Systems*
8. X-Wing *LucasArts/US Gold*
9. TFX *Ocean*
10. Frontier: Elite 2 *Gametek*

CD-ROM based games

1. 7th Guest/Dune *Virgin Interactive*
2. Battle Isle 2 *BlueByte*
3. Ravenloft *SSI/US Gold*
4. Gabriel Knight *Sierra*
5. Rebel Assault *LucasArts/US Gold*

Charts compiled by Virgin Retail

PC REVIEW Recommended

We don't give PC Review Recommended awards to many games, but you can be assured that those that do get this accolade will be, in our opinion, outstanding in all areas. A PC Review Recommended award is a guarantee of excellence.

The Recommended scheme

Not only do you have the advantage of knowing that Recommended games are currently the best in their class, but we give you the chance to win a copy of each PC Review Recommended title. We have five copies of each newly Recommended game to give away to the winners of this competition.

How to enter

If you'd like the chance to win a copy of Myst, this month's only new Recommended game, simply answer the question printed on the entry coupon, and send your entry on a postcard, or the back of an envelope, to PC Review Recommended, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

The closing date is June 10, 1994, and any entries received after that won't be eligible for the prize draw. The winners will be the first five correct entries drawn at random after the closing date. All normal competition rules apply — particularly the one about not sending in multiple entries. One form per person, please!

PC REVIEW RECOMMENDS

THE BEST OF THE LAST THREE MONTHS

Gabriel Knight: Sins of the Fathers
Sierra, £39.99 disk, £44.99 CD-ROM

A ghost story centred around voodoo cults, and set in New Orleans. Not for the faint-hearted, Gabriel Knight is an adult game dealing with adult themes, which manages to pull off that most difficult trick in computer games: creating strong believable characters. On CD-ROM, the roles are spoken by professional actors such as Mark Hamill and Tim Curry, which adds enormously to the atmosphere.

SimCity 2000
Maxis, £39.99

A sequel to a classic game which turned out to be everything it promised to be: a sophisticated, detailed and beautifully illustrated game in which you must build your own city from scratch, from raw terrain to a thriving metropolis. You'll also run the risk of seeing your carefully nurtured community razed by fire, flood and earthquake (or a visit from an alien fiend). The first add-on disk, with disaster scenarios from real cities is also now available.

Doom
Id/Transend, £34.75

The £34.75 price tag is for the full version; a fiver buys you the first world as shareware. Anyone who says the PC "can't do" arcade games needs to look at Doom and then eat their words. It's mayhem and carnage at a frantic pace, although having played the shareware version on PC Review's cover disk, you'll know all about that.

Win Myst on CD-ROM — recommended this month

WIN

Answer the question below and send this form (or a photocopy if you don't want to spoil your magazine) to PC Review Recommended, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU, to reach us by June 10, 1994, and your entry will be placed in the prize draw.

Q: Which American development team wrote Myst?

A: .....

Name.....

Address.....

.....

.....

❑ Tick this box if you do not wish to receive further information from companies associated with this competition.

THE PC REVIEW PLAYLIST

We've ranted about a fair number of games this month, and raved about a very select few. But what are the titles currently taking pride of place on our hard drives, and keeping us at work late into the evenings?

Christina Erskine

Plenty of opportunities for a SimCity fix this month, with the arrival of the Disasters scenario disk. Christina has also found time to brush up on her Links skills, trying out the Castle Pines course for size.

John Bennett

John was initially suspicious of Electronic Arts' FIFA Soccer when the work in progress disk arrived (no guns, no chainsaw, you understand). But it seems to have won him round. "This is *good*," he proclaimed.

Dean Evans

Dean is also tipping FIFA Soccer to topple Sensi from its dubious accolade of "best PC football game from a not very inspiring bunch". He's also been 'testing' MicroProse's Pacific Air War.

Cal Jones

Cal may have spent more time than strictly necessary slicing John into pieces with her Doom chainsaw, but she had no hesitation in proclaiming the non-violent Myst a cast-iron PC Review recommended game.

Paul Boughton

Paul has been pleasantly surprised by Reunion. Initially sceptical because it's an Elite wannabe with a 20 minute intro ("unnecessarily long and rather dull"), he was wooed by its scope and value for money.

REVIEWED THIS ISSUE

ON DISK

Battles of Time *UBI Soft*	7
Castle Pines *Access/US Gold*	7
Diggers *Millennium*	7
Quest for Fun *UBI Soft*	7
Ravenloft *SSI/US Gold*	7
Reunion *Grandslam*	7
SimCity 2000 Great Disasters *Maxis*	7
Genesia *Mindscape*	6
Raptor *Apogee/Transend*	6
Eye of the Storm *Rebellion*	5
In Extremis *US Gold*	5
Breakline *Mindscape*	4
Red Hell *Cyberdreams*	3
Spiritual Warfare *Alive Software*	2
Corridor 7 *Gametek*	2

ON CD-ROM

Myst *Electronic Arts*	9
Great Naval Battles II *SSI/US Gold*	8
Aegis *TimeWarner*	7
Lands of Lore *Virgin*	7
Dark Seed *Cyberdreams*	6
Hell Cab *TimeWarner*	6
Summer Challenge/Winter Challenge *Accolade*	6
Spaceship Warlock *UBI Soft*	5
Carriers at War *Electronic Arts*	5

SIM ANALYSIS COMPETITION

If you'd like to submit your SimCity 2000 created metropolis to the Sim Analysis competition, and the rigours of Cal Jones' character assassination (see page 97), all you need a copy of the game and a spare floppy disk.

You have 50 years, starting from 1900, to create your city. You may edit the terrain before you start, you may take out bonds to ease the financial pressure and you can play with the disasters off if you are feeling cowardly. You can also use tricks such as the Maxis Money-maker, as detailed in Issue 30, but please, no code-hacking, or blatant cheating.

When you reach January 1950, save the game, and send us the saved game on floppy disk. Label the disk clearly with your name and address and the name of your city.

Prizes

All the cities we publish and analyse will win a prize. The best cities will win a copy of SimCity 2000 Great Disasters scenario disk (reviewed this issue on page 54), middling cities will get a SimCity souvenir, and the worst city of all will get a mystery booby prize!

Send your entries on disk to Sim Analysis, PC Review, 30-32 Farringdon Lane, London EC1R 3AU.

Rules

- **Entries should arrive on disk, and saved games should be dated no later than January 1950.**
- **Please enclose an SAE if you absolutely must have your disk returned.**
- **You must be prepared to have your city analysed by 'Dr' Cal Jones.**

CIARÁN'S RANT

Whatever you want from screen-based gaming, you can get it from your PC — you know that, I know that, and soon, if current trends continue, just about everyone will have cottoned on to the fact that the PC is the only currently available games machine which offers any protection against the future. One thing that's not so generally recognised about the PC, though, is that it's been such a leader in the field of games development over the last half decade or so.

Animated adventures? You saw them here first. Flight simulations? Ditto. 256-colour games? Where else? Hard disk-only games? Natch. CD-ROM games? Not only were we the first, we're still the greatest.

So why is it that game publishers constantly drop us at the first sign of a flashy newcomer?

I suppose if PCs had feelings, they'd be feeling a bit like Brian McClair does as he spends week after week on the Manchester United bench. But hey! Enough of this whinging. I'm here to talk about something a little different this month. Let's get back to innovation for a moment.

New games on the block

If we take it for granted that future generations of the PC standard (and every new games kid on the block) will have more life-like graphics, better and better sound capabilities and ever-increasing memory (both storage and RAM), then where is the next step forward going to come from?

For what it's worth, my guess is that the next generation of games machines will all be built with one major factor in mind — connectivity.

It sounds pretty obvious when you put it into simple terms, but human beings (even computer users) are basically social animals which like to do things together. The very nature of the current personal computer or games machine, however, means that it can't help but lock the user into a solitary world — but with the help of some chips in a box, a length of cable, and some software, all that should change very soon.

Contemporary games gurus like to talk of future worlds where we all meet in Cyberspace (yeuccch! what an horrible word — go wash your typewriter out with soap, William Gibson) to share knowledge, compete with one another or simply chew the fat.

In fact, it's already happening. The Internet network is already full to bursting with avid computer owners delving into each others' personal text and graphics files, and surely it's only a short step from this to real 'interaction' across the digital airwaves.

I must confess that up until now I've done my best to avoid coming into contact with any of this malarkey. The very thought of modems, baud rates and protocols has been enough to send me scurrying straight back to my solitary unconnected existence, but lately I've been warming to the subject.

Ease of use

It could be because of the increasing ease of use which is being built into comms, it could be because of the amount of press which the subject of networking is receiving these days, but most of all it's because connectivity is the future — and I want to be right there when it all happens.

So there you have it... you know what I'm going to be doing until we meet again in these pages next month. And it won't just be me either — some of the biggest companies in communications (including BT and cable specialist Viacom) are also beginning to take an interest in where we all meet on the digital superhighway (or 'infobahn' as we jargonmeisters are calling it) and you can be sure that they wouldn't be bothered unless they thought that a lot of us were going to be there too.

■ **Ciarán Brennan**

MAGIC MEDIA®

THE Multimedia SPECIALISTS

081 343 9933

VIDEO BOARDS

ROMBO VIDI PC 24 CAPTURE CARD £178.00

HIGH QUALITY 24 BIT VIDEO DIGITIZING
UP TO 16.7 MILLION COLOURS & 256 GREYSCALES
IMAGES CAN BE GRABBED FROM MOVING PALICOMPOSITE/S-VIDEO INPUTS
CAPTURE TIME OF LESS THAN 1 SECOND
FREE PHOTOFINISH EDITING SOFTWARE

ROMBO

ROMBO MEDIA-PRO PLUS MOTION CAPTURE CARD £223.00

FULL MOTION DISPLAY OF TV/VIDEO/SOUND FOR WINDOWS
CAPTURE AND EDIT REALTIME VIDEO IN 24 BIT COLOUR
UP TO 2 MILLION COLOURS DISPLAYED
INPUT FROM PALINTSC/COMPOSITE/S-VIDEO SOURCES
FREE PHOTOFINISH EDITING SOFTWARE
FULLY COMPATIBLE WITH MS VIDEO FOR WINDOWS

ROMBO VISION PACK £294.00

MEDIA PRO PLUS CARD
WITH TV TUNER MODULE

PC TO TV/VIDEO OUTPUT MODULE

PLUG IN LIGHTWEIGHT MODULE
USES EXISTING VGA/SVGA OUTPUT
DISPLAY ON TV OR VIDEO
UP TO 1024 x 768 16.7 MILLION COLOURS
IDEAL FOR PRESENTATIONS AND TRAINING

STANDARD VERSION **£96.00**
PROFESSIONAL VERSION **£236.00**

VINE micros AUTHORISED DEALER

MULTIGEN GENLOCK ADAPTOR £272.00

USES EXISTING VGA/SVGA OUTPUT
MIX COMPUTER AND VIDEO IMAGES
WIPE AND FADE FACILITIES
FLICKER REDUCTION FILTER
IDEAL FOR VIDEO TITLING

INTEL SMART VIDEO RECORDER £362.00

RECORD AND COMPRESS VIDEO AT UP TO 30 FRAMES PER SECOND USES ON-BOARD I-750 PROCESSOR FOR REAL TIME COMPRESSION
TAKES JUST 9MB FOR 1 MINUTE OF VIDEO
FREE MS VIDEO FOR WINDOWS INCLUDED

VideoLogic AUTHORISED DEALER

PRO MOVIE STUDIO £242.00

REAL TIME COMPRESSION AT UP TO 30 FRAMES PER SECOND
INC PRODUCTION STUDIO SOFTWARE
IDEAL FOR CAMCORDER VIDEO EDITING

CAPTIVATOR £204.00

FULL MOTION VIDEO BOARD
FLEXIBLE, TRUE COLOUR IMAGES
SMOOTH FULL SPEED MOVIE PLAYBACK

REELMAGIC MPEG FMV PLAYBACK CARD £318.00

MPEG TECHNOLOGY TO DELIVER FULL SCREEN 32,000 COLOUR VIDEO
WATCH MOVIES ON YOUR PC SCREEN
DIGITAL VIDEO COMPATIBILITY WITH 50 FILMS BEING RELEASED IN '94
FREE GAMES SUPPLIED ON CD-ROM

SOUND CARDS

GRAVIS ULTRASOUND 3D V.3.4

CD QUALITY SOUND WITH 32 DIGITAL VOICES
256K ON BOARD MEMORY
UPGRADABLE TO 1MB
GAME AND MIDI PORT
POWER CHORDS AND MIDI SOFTWARE
IDEAL FOR MUSICAL COMPOSITION

STANDARD CARD **£118.00**
MEMORY UPGRADE (TO 1MB) **£32.00**
SCSI CD INTERFACE **£44.00**
MIDI ADAPTOR BOX **£33.00**

SOUNDVISION SOUND GOLD 16

SOUNDBLASTER, SB PRO, ADLIB, MSWSS 2.0 COMPATIBLE
16 BIT STEREO PLAYBACK 5KHZ TO 48KHZ
16 BIT STEREO RECORD
MIDI INTERFACE - MPU-401
3 CD ROM INTERFACES - PANASONIC SONY & MITSUMI
4 WATT PER CHANNEL
POCKET TOOLS SOFTWARE
OPL3, 20 VOICE SYNTHESIZER
ADPCM & ESPCM COMPRESSION
ON BOARD DIGITAL MIXING
OPL4 AVAILABLE UPGRADE

INTERNAL **£84.00**

UPGRADE Options AUTHORISED DEALER

MULTIMEDIA ACCESSORIES	
DISK CADDY	£4.00
KODAK PHOTO CD SOFTWARE	£14.00
SOUNDBLASTER DEVELOPERS KIT	£47.00
MIDI ADAPTOR KIT	£21.00
JOYSTICK SPLITTER CABLE	£9.00
MICROPHONE	£9.00
HEADPHONES	£8.00
CD LIBRARY CASE	£5.00
JOYSTICKS	
GRAVIS ANALOGUE PRO	£31.00
GRAVIS ANALOGUE	£26.00
CH FLIGHTSTICK	£30.00
CH MACH 2	£22.00
G-FORCE YOKE	£35.00
LOGIPAD EXTRA	£18.00
QUICKSHOT WARRIOR 5	£12.00
XT/AT GAME CARD	£12.00

THE •MAGIC MEDIA• PROMISE

WE WILL BEAT ANY ADVERTISED PRICE!!

SUBJECT TO STOCK

Labtec®

SPEAKERS

CS-150 WITH POWER BOOST	£17.00
CS-550 WITH 4W POWER BOOST	£21.00
CS-800 WITH 3 BAND EQUALIZER	£48.00
CS-1000 UNDER MONITOR UNIT	£58.00
ZIFI VERSION 2	£29.00
ZIFI PROFESSIONAL	£48.00
PINE AMPLIFIED WITH BASS	£11.00
SCREENBEAT INC MONITOR BRACKETS	£19.00

CD ROM DRIVES

PANASONIC CR-562B

THE BEST SELLING CD-ROM DRIVE
320MS ACCESS TIME
300KB PER SECOND TRANSFER RATE
MULTISESSION AND TWINSPEED
MPC II COMPLIANT
DIRECT CONNECTION TO SOUNDBLASTER RANGE
INCLUDES DRIVER SOFTWARE AND CABLES

INTERNAL **£142.00**
EXTERNAL **£189.00**
INTERFACE KIT **£19.00**

TOSHIBA 3401B/S

THIS DRIVE COMPLIES TO EVERY STANDARD
200MS ACCESS TIME
330KB PER SECOND TRANSFER RATE
MULTISESSION AND TWINSPEED

INTERNAL **£278.00**
EXTERNAL **£370.00**
ISA SCSI CARD **£47.00**
MCA SCSI CARD **£94.00**

TOSHIBA 4101 ALSO AVAILABLE - CALL FOR PRICES

CD-ROM TEN PACK

PC KARAOKE
TIME MAN OF THE YEAR
PC ANIMATION FESTIVAL
KINGS QUEST V
WORLD ATLAS
WORLD FACTBOOK
STELLAR 7
DOOM
BEST MEDIA CLIPS
CD ROM OF CD ROMS

PACK PRICE £49.00
OR £42.00 WITH ANY CD-DRIVE

MITSUMI FX-001D £151.00

THE ORIGINAL DRIVE JUST GOT BETTER
250MS ACCESS TIME
300KB PER SECOND TRANSFER RATE
MULTISESSION AND TWINSPEED
INCLUDES 16-BIT INTERFACE CARD
MOTORISED TRAY

SONY CDU331A £134.00

TRAY LOADING
TWIN SPEED & MULTISESSION
DIRECT CONNECTION TO SOUNDBLASTER16
MCD AND ORCHID SOUND/GAME WAVE
INCLUDES DRIVER SOFTWARE & CABLES

PIONEER DRM-602X £498.00

NEW TWINSPEED DRIVE
6 DISC JUKEBOX STYLE AUTOCHANGER

PIONEER QUAD DRM-604X £948.00

QUADSPEED TOWER DRIVE
6 DISC JUKEBOX STYLE AUTOCHANGER
DISC CHANGE TIME OF LESS THAN 5 SECS
610KB PER SECOND TRANSFER

THERES MORE TO SCREEN SAVERS THAN IMAGES FLOATING INERTLY ACROSS YOUR SCREEN

DOUBLE DOOZY £12.99
20 PSYCHOTIC ANIMATED SCREENS
25 TASTEFUL WALLPAPERS
50 KOOKY ICONS

DINOMANIA £12.99
6 ANIMATED JURASSIC SCREENS
10 FABULOUS WALLPAPERS
25 INCREDIBLE DINO ICONS

SWITCH
MasterCard
VISA
DELTA

MEDIA VISION

MEDIAVISION PORTABLE PC AUDIOPORT £132.00
BRING THE POWER OF SOUND TO YOUR PORTABLE PC - USE ON ANY STANDARD PARALLEL PORT - COMPACT, TO FIT IN YOUR SHIRT POCKET - DIGITAL AUDIO PLAYBACK AND RECORD - BUILT IN SPEAKER - MICROPHONE INPUT AND AUDIO OUTPUT WITH VOLUME CONTROL - ADLIB AND SOUNDBLASTER COMPATIBLE

MEDIAVISION PRO SONIC 16 BASIC £78.00
16-BIT QUALITY AT THE PRICE OF A 8-BIT CARD - STEREO DIGITAL AUDIO RECORDING AND PLAYBACK -ON-BOARD FM SYNTHESISER - GAME AND MIDI PORT - FULLY SOUNDBLASTER PRO COMPATIBLE - PANASONIC CD-ROM INTERFACE

MEDIAVISION PRO AUDIOSPECTRUM 16 £98.00
THE WORLDS BEST SELLING 16-BIT SOUND CARD -TRUE 16-BIT 44.1KHZ STEREO CAPABILITY - GAME AND MIDI PORT - FULLY AD-LIB AND SOUNDBLASTER COMPATIBLE - MPC AND WINDOWS 3.1 SUPPORT

MEDIAVISION PRO AUDIOSTUDIO 16 £134.00
BASED ON THE AUDIOSPECTRUM 16 CARD - BUILT IN SCSI CD-ROM INTERFACE - SELECTABLE INPUT GAIN FOR VERSATILE RECORDING - EXECUVOICE VOICE RECOGNITION SOFTWARE - COMPUTER MOUNTED MICROPHONE FOR VOICE CONTROL

ORCHID

ORCHID SOUND PRODUCER	**£42.00**
ORCHID SOUND PRODUCER PRO	**£78.00**
ORCHID GAMEWAVE 32	**£124.00**
ORCHID SOUNDWAVE 32	**£154.00**
ORCHID CDS-3110 CD-ROM DRIVE	**£162.00**
ORCHID SCSI CHIP UPGRADE	**£22.00**
ORCHID VIDIOLA CAPTURE CARD	**£284.00**

CREATIVE

SOUNDBLASTER V.2	***£43.00***
SOUNDBLASTER PRO BASIC	***£58.00***
SOUNDBLASTER PRO VALUE	***£62.00***
SOUNDBLASTER 16 VALUE	***£79.00***
SOUNDBLASTER 16 MULTI CD	***£118.00***

SOUNDBLASTER 16 MULTI CD ADSP	***£139.00***
SOUNDBLASTER 16 SCSI-2	***£139.00***
SOUNDBLASTER 16 SCSI-2 ADSP	***£162.00***
SOUNDBLASTER 16AWE2	***£208.00***
VIDEO BLASTER SE	***£214.00***
VIDEO SPIGOT	***£212.00***
WAVE BLASTER	***£138.00***
CD16 UPGRADE KITS	***£424.00***

OMNI CD	***£248.00***
MIDI BLASTER	***£158.00***
ADSP CHIP UPGRADE	***£46.00***

FREE SPEAKERS WITH ALL SOUNDCARDS

MAGIC MEDIA®

THE Multimedia SPECIALISTS

081 343 9933

TECHNICAL SALES	TECHNICAL SUPPORT	CUSTOMER SERVICE	FAX LINE
081 343 9933	081 446 3966	081 446 2508	081 446 4313
(25 LINES)			

NEC CD-ROM RANGE

FROM DOUBLE TO QUAD SPEED, THE NEW NEC RANGE IS FAST SETTING THE STANDARDS.

MULTISPIN 2XI £149.00
INTERNAL MODEL
320MS ACCESS TIME
MULTISESSION AND TWINSPEED
AUTO LENS CLEANING

MULTISPIN 3Xp £298.00
PORTABLE VERSION OF 3XE
250MS ACCESS TIME
450K PER SECOND TRANSFER
FULL FUNCTION CONTROL

NEC
AUTHORISED DEALER

TRIPLE 3Xi £290.00
INTERNAL MODEL
TRIPLE SPEED
195MS ACCESS TIME
MPC I AND II COMPLIANT

TRIPLE 3Xe £358.00
EXTERNAL MODEL
TRIPLE SPEED
195MS ACCESS TIME
MPC I AND II COMPLIANT

MULTISPIN 4X PRO £629.00
AMAZING EXTERNAL QUAD SPEED DRIVE
180MS ACCESS TIME
600KB PER SECOND TRANSFER
256K CACHE MEMORY
AUTO LENS CLEANING

OPEN 6 DAYS A WEEK

Mon-Fri 8am - 7pm
Saturday 10am - 2pm

PERSONAL CALLERS WELCOME

Student Discounts Available

If you're an education authority, government establishment or quoted PLC

Just Fax or send your order

MAGIC MEDIA®

THE Multimedia SPECIALISTS

081 343 9933

386/486 MEMORY KITS

MEMORY MATCHED KITS SUPPLIED WITH FITTING INSTRUCTIONS & ANT-STATIC WRIST STRAP

ACER 1120SX,1200
AMSTRAD 1386,2386,3386, 7386,7486
COMPAQ PROLINEA
COMPUADD 386,486
DAN TECHNOLOGY 386,486
DELL 300,310,316SX,320
DEC PC333,433
ELONEX 386,486,SX/16/M/V/B
EVEREX 386,486
GATEWAY 386,45X-33, 4DX-33/66/V/P
GOLDSTAR 312,322,486
IBM AMBRA
ICL 50,55
MITAC DESKTOP 386,486
MJN 386,486
OLIVETTI PCS386,M300,M380, M400-10/40/60,M480-10/20
OLYMPIC 386,486
PACKARD BELL 316,386, 416,486
REEVES 386,486
TANDON SL386,PAC,386N, 386SX,486
VIGLEN GENIE SX20,3LS, II25/33
VIGLEN 45X25,4DX33,4DX50, 4DX2-50/66
WYSE 386/16S,PW386/8/20/25

2MB KIT £66.00
4MB KIT £130.00

8MB & 16MB KITS PLEASE CALL

286 MEMORY KITS

MEMORY MATCHED KITS SUPPLIED WITH FITTING INSTRUCTIONS & ANT-STATIC WRIST STRAP

ACER 100LX,113
AMSTRAD 1286,2286,3286, 5286
COMMODORE PC40,PC50
DELL 200,210,220
ELONEX 286M,286C
EVEREX 286
ICL 30,40,50
OLIVETTI PCS286,M250,M290
PACKARD BELL LEGEND 200
TANDON SL286,PAC,286N
TIKO 286
VIGLEN GENIE II,ELITE

2MB KIT £84.00
4MB KIT £162.00

8MB & 16MB KITS PLEASE CALL

LASER PRINTER MEMORY

APPLE LASERWRITER II/NTX
1MB £84.00
4MB £164.00
BROTHER HL4/HL4V
1MB £78.00
2MB £116.00
4MB £180.00
BROTHER HL8/E/V/HL10
1MB £85.00
2MB £126.00
CANON LBP4/4+/LITE/SX
1MB £85.00
2MB £124.00
CANON LBP8II/RT
1MB £78.00
2MB £112.00
4MB £157.00
EPSON (FULL RANGE PLEASE CALL)
HP LASERJET II/IID
2MB £90.00
4MB £161.00
HP LASERJET III/IIID/IIIP
2MB £89.00
4MB £155.00
HP LASERJET III/SI/IV
1MB £66.00
2MB £97.00
4MB £141.00
IBM 4019/E
2MB £89.00
3.5MB £133.00
IBM 4029/E
2MB £79.00
4MB £164.00
IBM 4039/4079
4MB £214.00
8MB £396.00
KYOCERA F800
1MB £89.00
2MB £136.00
KYOCERA F1000
1MB £121.00
KYOCERA F1200S/2200/3000 /3300/5000
1MB £89.00
2MB £121.00
MANNESMAN TALLY MT905/904
2MB £125.00
4MB £194.00
OKI LASER 400E/400EX/410EX
1MB £116.00
OKI LASER 400
1MB £67.00
2MB £87.00
OKI LASER 800/820/840
2MB £114.00
OKI LASER 830/840
2MB £126.00
PANASONIC 4420/4450
1MB £56.00
2MB £86.00
PANASONIC 4430
1MB £98.00
SHARP JX-9500/PS
1MB £67.00
2MB £148.00
4MB £226.00
STAR LP4/LP8
1MB £104.00
2MB £131.00

SIMMS

1M X 9 £34.00
4M X 9 £123.00

SIPPS

1M X 9 £44.00
4M X 9 £158.00

DRAMS

256 X 1 £2.50
256 X 4 £4.60
1M X 1 £4.80
1M X 4 £16.20

PCMCIA

SUITABLE FOR AMSTRAD NC100/HP 95LX/POQUES PC/SHARP/MITAC

128K CARD £26.00
256K CARD £55.00
512K CARD £86.00
1MB CARD £126.00
2MB CARD £189.00

MEMORY EXPANSION BOARDS

KINGSTON ATA BOARDS. FOR PC'S WITH NON-UPGRADABLE MOTHER BOARDS. ALL BOARDS CAN BE POPULATED UPTO 16MB.

WITH 2MB INSTALLED £130.00
WITH 4MB INSTALLED £190.00
WITH 8MB INSTALLED £320.00

PORTABLE MEMORY

AMSTRAD ANB 386SX
4MB £199.00
COMMODORE LT286/386
EVEREX TEMPO
SANYO NB17/18
2MB £88.00
4MB £174.00
PANASONIC CF170/270/370
1MB £79.00
LIBREX V386SX
4MB £224.00
IBM P75/56SX/56LS/ 56SLC/57SX
2MB £97.00
4MB £153.00
8MB £289.00
IBM THINKPAD 350/700/710/720/750
2MB £134.00
8MB £389.00

Kingston TECHNOLOGY CORPORATION

IBM MEMORY

PS/1 286/386/PRO
2MB £87.00
4MB £159.00
PS/2 25-286/30-286
2MB £125.00
4MB £241.00
PS/2 35/40/56/57
2MB £93.00
4MB £162.00
8MB £318.00
PS/2 50/50Z/55/60/65/70
2MB £79.00
4MB £146.00
8MB £318.00
PS/2 80/90/95
2MB £93.00
4MB £162.00
8MB £318.00
VALUEPOINT 6381/6382/6384
4MB £155.00
8MB £294.00

ADAPTOR BOARDS FOR PS/2 SYSTEMS WITH NON-UPGRADABLE MOTHERBOARDS

PS/2 50/50Z/60/70/80
16MB BOARD WITH 2MB POPULATED £232.00
16MB BOARD WITH 4MB POPULATED £292.00
16MB BOARD WITH 8MB POPULATED £422.00

DELL MEMORY

325/D/P/333/D/P
4MB £139.00
8MB £278.00
16MB £467.00
486D/P/420/425/433/450/ 466/S/M/L/TE/SE
2MB £84.00
4MB £139.00
8MB £264.00
16MB £498.00
320N/212N
2MB £134.00
NL20/NL25
2MB £108.00
320SLI
512K £84.00
1MB £146.00

TOSHIBA MEMORY

T1000/E/XE/LE
T1200XE
T1600/T5100
T1800/T1850/C
T2000SX/E/T2200SX/E
2MB £89.00
4MB £163.00
8MB £294.00
T3100/E/SX
2MB £95.00
4MB £165.00
T3200SX/C
2MB £94.00
4MB £173.00
8MB £344.00
T3200
3MB £166.00
T4400/T6400/DX/C
2MB £84.00
4MB £178.00
8MB £324.00
T4500/T4600/T3400CT
T4700CT/T1950CT
8MB £389.00
T5200/C/T8500
2MB £89.00
8MB £369.00
12MB £454.00

ZENITH MEMORY

Z386/20/25/33/33E
1MB £46.00
2MB £67.00
4MB £136.00
SUPERSPORT 286/286E
1MB £64.00
2MB £97.00
MASTERSPORT 386SX/SL
2MB £94.00
4MB £189.00
TURBOSPORT 286/E/386/E
1MB £128.00
2MB £179.00
Z-NOTE 320/325
1MB £108.00
2MB £394.00

COMPAQ MEMORY

286N/386N/386S20/325I/3/ 33/425IS
2MB £79.00
4MB £139.00
8MB £244.00
38616/20/25/E/S
1MB MODULE £94.00
4MB MODULE £198.00
1MB BOARD £114.00
4MB BOARD £248.00
SYSTEMPRO 486/ DESKPRO 486
2MB MODULE £89.00
4MB MODULE £167.00
8MB MODULE £286.00
64MB BOARD WITH 2MB £182.00
64MB BOARD WITH 4MB £288.00
64MB BOARD WITH 8MB £434.00
PROLINEA 4/25S/4/33/4/50/4/66
2MB £79.00
4MB £139.00
8MB £244.00
CONCERTO 4/25/4/33
8MB £428.00
16MB £1164.00
CONTURA 3/20/3/25/3/25C
2MB £77.00
4MB £154.00
8MB £286.00
SLT 286
1MB £94.00
4MB £224.00
SLT 386S/20
1MB £74.00
2MB £118.00
4MB £172.00
LTE 386S/20/LITE
1MB £77.00
2MB £89.00
4MB £184.00
8MB £336.00

MATHS CO-PROCESSORS

INCREASE THE SPEED OF YOUR MATHS INTENSIVE APPLICATIONS.

80287-XL (12MHZ) £36.00
80387-16SX (16MHZ) £39.00
80387-20SX (20MHZ) £42.00
80387-25SX (25MHZ) £42.00
80387-33SX (33MHZ) £48.00
80387-16DX (16MHZ) £48.00
80387-20DX (20MHZ) £51.00
80387-25DX (25MHZ) £52.00
80387-33DX (33MHZ) £52.00
80387-40DX (40MHZ) £54.00

CALL IF YOUR UPGRADE IS NOT LISTED

WE ALSO SUPPLY MEMORY FOR:
AMSTRAD • APPLE • AST • AT & T • COMMODORE • DEC • GOLDSTAR • KAMCO • MIN • MULTIPLEX • NCR • NEC • H/P • OPUS • PANASONIC • TANDY • TI • UNISYS • VALE • WYSE • VIRGIN

CALL TO CONFIRM PRICING DUE TO THE EXCHANGE RATE FLUCTUATION AND WORLD-WIDE SHORTAGES

SWITCH
MasterCard
VISA
DELTA

CD-ROM TITLES

CD-MANIA

OVER 5000!

TITLES IN STOCK

NEW TITLES ARRIVING DAILY

PLEASE CALL IF THE TITLE YOU REQUIRE IS NOT LISTED

ENTERTAINMENT

7TH GUEST	£35
B17 SILENT SERVICE	£29
BENEATH THE STEEL SKY	£29
BATTLECHESS MPC	£22
BLUE FORCE	£29
CARMEN SANDIEGO	£28
CHESSMASTER 3000	£22
CHESSMANIAC	£29
CONSPIRACY	£31
DAY OF TENTACLE	**£28**
DRACULA UNLEASHED	**£25**
DUNE	£29
EYE OF BEHOLDER	£29
GABRIEL KNIGHT	£29
GOBLINS 3	**£34**
GOLDEN SEVEN	£34
INDIANA JONES IV	£28
INCA II	**£29**
IRON HELIX	**£28**
JUTLAND	£33
JURASSIC PARK	**£24**
JOURNEYMAN PROJECT	**£31**
KINGS QUEST VI	£25
LANDS OF LORE	£31
LAWNMOWER MAN	£29
LAURA BOW II	£29
LOOM	£22
MADDOG McREE	**£27**
MECHWARRIOR	**£29**
MICROCOSM	**£33**
NAVAL STRIKE FIGHTER	**£30**
QUANTUM GATE	**£31**
REBEL ASSAULT	**£31**
RETURN TO ZORK	**£27**
SECRET WEAPONS	£24
SHADOW OF THE COMET	£28
SHERLOCK I	£18
SHERLOCK II	£31
SHERLOCK III	£36
SPACE ADVENTURE	£30
SPACE QUEST IV	£22
STARTREK 25TH	£28
STELLAR 7	£22
STRIKE COMMANDER	**£26**
TORNADO	**£31**
T.F.X.	**£29**
WACKY FUNSTERS	£18
WILLY BEAMISH	£25

REFERENCE

ANIMALS IN MOTION	£15
ART GALLERY (MICROSOFT)	£33
CIA FACTBOOK	£20
COLOSSAL COOKBOOK	£14
COMPOSER QUEST	£19
DESERT STORM	£28
FAMILY DOCTOR	£19
GREATEST BOOKS	£27
MOVIE MADNESS	£28
VIDEO GUIDE 1993	£19

MUSIC

COMPOSER QUEST	£14
JAZZ MULTIMEDIA TOUR	**£41**
MS BEETHOVEN	£35
MS MOZART	£35
MS STRAVINSKY	£35
MS INSTRUMENTS	£36
EA MOZART	£24
SOUND WAVE	£12
SOUND EXPLORER	£19

EDUCATION

AMARDA STORIES	£34
ANIMALS MPC	£29
ARTHUR TEACHES	£29
CREEPY CRAWLIES	£38
CREATIVE KIDS RANGE	**£21**
DINOSAUR ADV.	£28
ELECTRICITY	£35
J.F.K. ASSINATION	**£32**
MAMMALS	£79
MAVIS BEACON	£24
OCEAN LIFE	£22
PUTT PUTT	£29
SPELLBOUND	£34

ENCYCLOPEDIAS

AMERICAN HERIT.	£48
ANIMAL ENCY	£39
COMPTONS INTERACTIVE	**£99**
DICTIONARIES	£14
DINOSAURS ENCY	£42
GUINESS RECORDS	£34
HUTCHINSONS	**£68**
MS ENCARTA 1994	**£74**
MS BOOKSHELF	**£49**
MULTIMEDIA ENCY	£219
McMILLAN DICT	£28
SOUND ENCY	£12

LANGUAGES

BERLITZ FRENCH	**£86**
BERLITZ GERMAN	**£86**
BERLITZ ITALIAN	**£86**
BERLITZ SPANISH	**£86**
GAMES IN FRENCH	£20
GAMES IN GERMAN	£20
GAMES IN ENGLISH	£20

GEOGRAPHY

GLOBAL EXPLORER	£72
GREAT CITIES II	£30
GREAT CITIES III	£38
LONDON	£29
MAJESTIC PLACES	£24
WORLD ATLAS V.4	£23
WORLD FACTBOOK	£14
WORLD TRAVELLER	£14
WORLD VIEW	£24
WORLD VISTA	£39

SCIENCE

AMAZING UNIVERSE	£39
CREEPY CRAWLIES	£38
LIVING WORLD	£79
OCEAN LIFE I	£22
OCEAN LIFE II	£22
DEEP VOYAGE	£22
DINOSAURS	£42
FOREVER GROWING	**£28**
FAMILY DOCTOR	£19
HAM RADIO	£14
SPACE HISTORY	£24
SPACE ADVENTURE	£29
TROPICAL FORESTS	£22
VIEW FROM EARTH	£39
VITAL SIGNS	£44

ART & DTP

ART GALLERY (MICROSOFT)	£33
BUSINESS BACKGROUNDS	£22
CLIPART GOLIATH	£10
CLIPART WHAREHOUSE	**£10**
FONT FUN	£24
FONTMASTER	£22
GIFS GALORE	£17
JETS AND PROPS	£24
LIBRARY CLIPART	£29
MANY TYPEFONTS	£10
PUBLISH IT!	£68
RENAISSANCE I or II	£33
WILD PLACES	£24
WOMEN OF VENUS	**£19**

SHAREWARE

ANIMATION FESTIVAL 1994	**£19**
BIBLES & RELIGIONS	£10
BRAIN DRAIN	£10
CICA WINDOWS	£10
CLIP ART	£10
COLOSSAL COOK	£10
DEATHSTAR ARCADE	£10
FUTURA	£13
GAMES COLLECTION 1993	**£13**
GAME PACK II	£18
GIF IT	£10
GOLD COLLECTION 1993	**£13**
HAM RADIO	£10
JUST GAMES	£12
MEGA CD	£12
PIXEL PERFECT	£12
PREMIER SHARE	£10
SELECTWARE	£10
SOUND LIBRARY	£14
SOUND SENSATIONS	£10
SHAREWARE EXTRA	£49
SHAREWARE OVER	£10
SUPER CD	£10
TECHNO TOOLS	£10
VGA SPECTRUM	£19
WINDOWS COLLECTION 1993	**£13**
WALKTHROUGHS/FLY-BY'S	£24

WHY MAGIC MEDIA ?

•BUY WITH CONFIDENCE•
RELIABLE LEADING BRAND PRODUCTS TO GUARANTEE QUALITY AND LONG TERM SUPPORT

•EXPERIENCED STAFF•
FOR FRIENDLY ADVICE ON ALL YOUR MULTIMEDIA REQUIREMENTS

•FREE TECHNICAL SUPPORT•
FULLY TRAINED TECHNICAL DEPARTMENT TO ASSIST YOU WITH YOUR QUERIES

•FAST RELIABLE SERVICE•
GOODS DELIVERED DOOR-TO-DOOR
OVER 96% OF ORDERS DISPATCHED THE SAME DAY

Delivery Charges:		
	UK Mainland next day	£5.00 + V.A.T
	UK Mainland (3 to 5 days)	£3.50 + V.A.T
	Europe 5 day service	£7.00 + V.A.T

FREE DELIVERY
ON ORDERS OVER £150.00 + V.A.T.
(U.K. Mainland Only 3 to 5 day service)

Order Direct To: Magic Media, *Brent House, 24-26 Friern Park, North Finchley, London N12 9DA*

DESCRIPTION	QTY	PRICE
_____	_____	£ _____
_____	_____	£ _____
_____	_____	£ _____
	Add P&P + VAT at 17.5%	£ _____
	TOTAL	£ _____

I enclose a cheque for £ _____ made payable to Magic Media or Please debit my Mastercard/Visa/Switch/Delta

Number _____ Expires _____

Name _____ Company _____

Address _____

_____ Postcode _____

Telephone No _____ Fax No _____

MAGIC MEDIA®

THE *Multimedia* SPECIALISTS

081 343 9933

BS 5750 APPLIED FOR

THE SUPPLY OF COMPUTER & PRINTER MEMORY & PROCESSOR & MULTIMEDIA UPGRADE

Prices & products are subject to change & availability. All trademarks & trade names are the property of their respective manufacturers & owners.

All prices exclude VAT

10% restocking fee for returned non-defective goods

©FTC Graphics Ltd 1994

PRODUCTS
the
PRODUCT
directory
MITSUMI

Reviewed this month PRODUCTS

It may not be on the scale of a house or a new car, but the home PC makes a sizeable dent in any wallet. However, the sheer enjoyment and convenience of the PC is enough to justify the initial outlay, and the extra hardware and software you snddenly find you just have to have.

That's fine. Nobody minds spending money on something worthwhile. On the other hand, if you make the wrong decision you could end up throwing good money away on something you don't want, don't need and certainly won't like. With the sheer number of PC products arriving daily, usually to a fanfare of technical gibberish, it's all too easy to make a mistake.

That's how this section is going to help you — smmmarising the effectiveness of new PC products in a direct and straightforward way, free of jargon. This will point you in the direction of that essential gadget, and warn you off the badly made, the unsuitable and the ill-conceived.

Many PC products are just not designed for you and me to use, they're still aimed at companies and offices. In a company, you don't chose what sits on your desk, you don't have to pay for it, or fix it when it goes wrong. A specialist does it all for you.

That doesn't happen at home. So, until there's a wholesale change in the type of equipment we're sold, you need to be able to distingnish what is important about PC hardware and software, and what is just marketing guff. When you buy a car you don't need to know how a 16-valve engine works right down to the last rivet. You need to know how qnick it is, how well it performs and whether it's likely to fall apart on you. The same is true with the PC, and that is what we aim to provide in these pages.

HARDWARE

Sound FX Classic 3000 108
Mitsumi FX001D 110
FlightMax 110
Western Systems 486/25 ...110
Gameport 2000 111
NEC WinPrinter.....111
Akio Entertainer Plus 111

SOFTWARE

The Classic Car Guide 114
Fitness Studio 116
Fine Artist 116
Putt Putt Goes to the Moon 110

CD-ROM

Newsweek Interactive.....111
Rock and Roll Years.....111
Soft Kill 112
Digital Love.....112
Dr Schueler's 112
Butterfiles of the World 114
Forever Growing Garden ...114
Beethoven's 5th.....116

The rating system explained

The products in the following section are marked out of five:
★ Dreadful. Don't touch with a barge pole.
★★ Usefulness is probably limited, but could be suitable for specific need.
★★★ Generally good; some limitations
★★★★ Good. Should go on anyone's shortlist to buy
★★★★★ Superb, either outperforming or offering features that other products can't do.
Ease of use, ease of installation, value for money and sheer performance are the most important factors we take into consideration.

Product directory

PRODUCTS

Surely we need an expensive new sound card like a hole in the head ... but then, the Sound FX Classic 3000 does boast some very classy features.

We start off this month's Product Directory with a new, all-singing, all-dancing sound card that deserves a very close look for the effect it's going to have in a market where we are already spoilt for choice.

Sound FX Classic 3000

16-bit wavetable sound card

Welcome to the sound card that has everything. Well, almost. The SFX Classic 3000 has wavetable and FM synthesis on the board in hardware, over 300 sampled sounds, General MIDI and Roland GS support, and on and on.

OK, I know we're aiming to avoid the mass of jargon that usually accompanies computer product reviews, and that last bit sounded suspiciously like it.

The problem is that there are already several similarly priced top quality cards from a variety of manufacturers, each boasting of superior sound quality backed up by a barrage of facts and figures for those of us who can't tell the difference by ear alone. With such a subjective matter as sound quality, it's impossible to make an accuracte assessment without taking a very close look at the technology involved

It's got a widget

The SFXC3000 is a 16-bit wavetable card — like the Advanced Gravis UltraSound and the Orchid SoundWave and GameWave.

The advantage of the SFXC3000 over its wavetable rivals is that it uses Pulse Coded Modulation (PCM) wavetable hardware to create sound rather than the software-driven wavetable Digital Signal Processor (DSP) approach of the Gravis and the Orchid cards. The boxout on the opposite page explains a little more about PCM hardware — but the long and the short of it is that it produces marginally better sound quality than DSP systems.

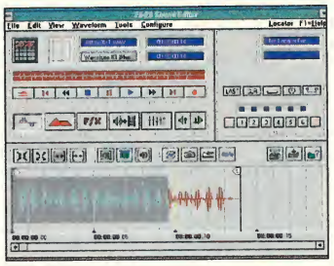
A large step down the quality ladder, and the alternative to a wavetable card, is an FM card like the Sound Blaster.

And, quite simply, there is no comparison in sound quality terms between wavetable cards and the older FM synthesis cards. Wavetable produces a better noise all round, and you also pay quite a bit more for it than FM.

But you usually take a bit of a gamble with wavetable cards, because not all games support them directly as yet.

Not so with the SFXC3000, which is what makes it such an interesting newcomer.

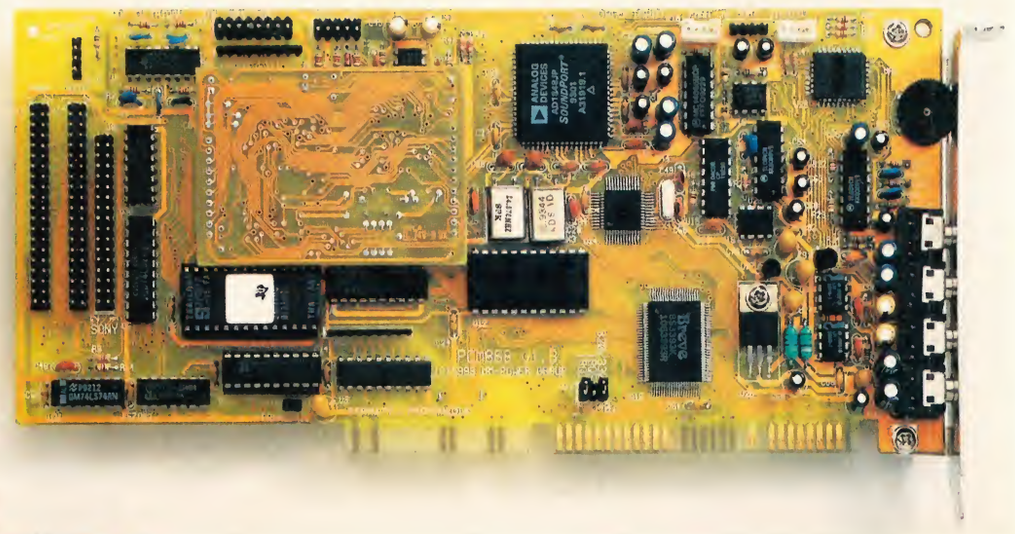
How? Well, not only does it have the high-quality wavetable capabilities, but it also has an FM chip onboard to fall back on. This Yamaha chip is the same one used in the vast majority of FM cards, so the



SFXC3000 can offer genuine Sound Blaster and Ad Lib emulations.

And, as far as I can tell, the emulation is rock solid. I've loaded up something in the region of 30 of the most troublesome games I could lay my hands on, and not one of them has caused me any problems. There may be a game out there that can trip it up, but I certainly haven't come across it yet.

To me this has always been the fundamental criterion for choosing a sound card. If it doesn't work with the game you want to play, it's not worth having, no matter how good the sound quality is supposed to be. At work, I tend to fall back on a



trusty old Sound Blaster Pro — simply because I have to load up a lot of games all the time and I know it'll work every time. The SFXC3000 has been a real eye-opener on this score.

In terms of basic games sound standards, the only thing that is missing is a Sound Blaster Pro emulation. But the SFXC3000 sidesteps this rather neatly by enabling you to use the two wavetable emulations — General MIDI or Roland — for music, and the Sound Blaster emulation for effects. Either GM or Roland music sounds a hell of a lot better than a Sound Blaster Pro emulation for music.

There are two other features of the SFXC3000 that round it off as a truly impressive games card. One is apparently rather minor, but does in fact make life a lot easier: the SFXC3000's software driver takes up a mere 3K. Given that the equivalent on the majority of cards is around 30K this is quite an advantage when it comes to squeezing and teasing enough base memory out of your PC for some of the more memory hungry games.

The other feature is CD-ROM support. The SFXC3000 comes with three CD-ROM interfaces, for Sony, Mitsumi and Panasonic drives.

Music for the masses

The SFXC3000 is also a very attractive card for anyone interested in producing music on the PC. Like the Orchid card, it stores the 128 General MIDI sounds in ROM, along with another 200 sounds, which is always going to have the edge on keeping them on your hard disk.

Add the top notch MIDI sound quality, Roland SCC1 and MPU-401 compatibility, and DAT-quality sampling rates and you have a general purpose card that can take on the specialist — and considerably more expensive — music cards at their own game.

What's missing

As I hope you've already guessed, we're very impressed with the SFXC3000. But there has to be something missing, doesn't there? Well, if I had to pick holes in the card it would only be for minor misdemeanors, none of which would put me off buying the card.

Maybe 3D sound like the Gravis UltraSound would have been a nice addition. But then 3D sound is hardly a major player in many games as yet.

Speakers are conspicuous by their absence, but personally I think this makes perfect sense. The sort of speakers a manufacturer can afford to put with a sound card and still keep the overall price competitive are, to be blunt about it, useless, nine times out of ten. If you're paying good money for sound quality, why throw it all away using junk speakers? So no great loss.

You do need to bear in mind that the game and MIDI ports come on a separate plate for the back of your PC, so you have to have two slots free for the card and the ports — an untidy way of doing things but really only a minor inconvenience.

And lastly, well, I'm not overly struck by the bundled software. You don't get a great deal to start with — OK-ish sound recording, editing and playback software, and a mixer panel, but at least Cubase Lite is thrown in to keep the musos happy. Or you get twenty quid off if you give it a miss.

Even then, it's not exactly a cheap option. Prices on cards have come down considerably in the last twelve months. You can pick up an 'el cheapo' clone for as little as fifty quid that should work on most things. And, the first 16-bit cards under £100 arrived in the last couple of months from MediaVision.

The SFXC3000 is a top of the range card, and you're paying for the combination of extra features. For musicians, it provides an excellent alternative to the sort of specialist music cards you would normally be looking at, while doubling up as a good all-round card at the same time. The SFXC3000 packs enough features alongside top-quality sound reproduction to qualify automatically for anybody's shortlist.

For gamesplayers, it's a little less clear cut. I guess it rather depends on how much you're prepared to pay for out-and-out sound quality. But at least you know that the SFXC3000 won't let you down when on the basics, and really shines when given the chance to perform to the limits of its capabilites.

I can't think of another sound card that offers as complete a package.

John Bennett

★★★★

- **Supplier:** BluePoint
- **Contact** (0908) 277007
- **Price** £199.99

16-bit WaveTable sound card with FM synthesis, Mitsumi, Panasonic and Sony CD-ROM interfaces. Sampling to DAT quality.

SOUND CARDS?

Why do we have to buy sound cards anyway? I don't mean the high-end stuff : if you want to pay a premium for top-quality sound that's a matter of personal choice just like the amount you spend on your hi-fi. But, since the PC is now playing a general purpose role in life — rather than ambling along like the office donkey it started out as — sound is now as much a fundamental feature as the display or the mouse on a PC.

If you're anything like me, there's a cut off point as far as sound quality is concerned. Up to a level we can distinguish between better sound reproduction, and would obviously prefer something that sounded fuller, richer and with less hiss and crackle. But things do reach a point where the sound quality is so good that differences between sound cards become largely academic for most PC users. It's only the hi-fi/gadget freak or those people actually working with PC music who go looking for that extra edge.

So for that level of user, there's always going to be a market for ever-improving sound card technology, a reason to shell out another £200. For the rest of us — we just want the sound to be there when we buy a PC. And I don't mean a 'multimedia PC' with a card stuck in a slot. I mean built on to the motherboard, ready configured so that you never have to deal with it and completely 'transparent' to the end-user. Something we can take for granted. After all, the Apple Mac has been doing just that for years with simple 8-bit sound, and now 16-bit.

Hopefully, that's on the way. MediaVision signed a recent deal with Gateway 2000, to put the Jazz chipset in future Gateway 2000 486 PCs. IBM has signed similar deals. Perhaps the most significant deal of the lot was the one signed by Advanced Gravis with chip manufacturer and motherboard designer AMD. This puts 16-bit UltraSound technology on motherboards designed by AMD in PCs sold into the home. That's how it should be.

But when we have a passable sound standard built into the PC , hopefully reserving a consistent set of interrupts, DMAs and what-have-you, and without having to pay a premium for it — that"ll be the end of the line for the multitude of cheap Sound Blaster clones, and leave smaller pickings for the big names in the sound business. It'll make life a lot simpler.

John Bennett

PCM

Pulse coded modulation

As I said in the review, the SFXC3000 has got a widget, in this case Pulse Coded Modulation, or PCM for short.

What on earth is PCM, you may well ask? Most sound cards use what's called a Digital Signal Processor (DSP) to produce the analogue sound. Unfortunately the rate at which each sound is needed means that a DSP and software combination cannot cope with putting the whole signal through (not without a DSP costing the earth) so it passes on what it can — but with a loss in quality in the process.

So, enter the widget — in this case the use of built-in PCM hardware. PCM does not have the same trouble getting , for example, the pitch or tone information through quickly enough, so it doesn't have to drop any information along the way and doesn't lose sound quality in the process.

MITSUMI

FX001D Double Speed CD-ROM drive

Credit where credit's due, Mitsumi's cheapo single speed CD-ROM drive did a great deal to further the CD cause, simply by bringing prices right down to truly affordable levels.

Since single speed drives are now — certainly in gaming terms — pushing up the daisies, Mitsumi has had to come up with an equivalent double speed job. And, funnily enough, the FX001D is another cheap and cheerful affair.

Stick your nose into the drive and the first thing you'll see are a mixed bag of horrible plastic cogs which look like they're on compassionate leave from a Christmas cracker. The CD interface card, the documentation, setup routine and the packaging all have the same primitive feel even though the old, naff-in-the-extreme Mitsumi dustbin lid disc loader has been replaced by a slick tray-loader.

But so what? When it comes down to it, the FX001D outperforms the majority of its more expensive rivals by a very good margin. Consistently, too. I wouldn't, for example, swap this drive for the Panasonic double speed drives common in many expensive multimedia bundles. I wouldn't swap it for one of the cheaper Sony drives, either. In fact, now I come to think of it — and having used it for a good while — I really don't want to swap it for another drive at all. Sure, it's no heavyweight when you compare it with, say, the consistent high performance and build quality of a say a Toshiba, Pioneer or top-end NEC drive — but then these will set you back three or four times the street price of the FX001D even on a good day.

And true, with all the hoo-ha over triple and quad speed drives, it's not going to have an enormously long effective life span. But it handles what are considered to be today's heavyweight CD games with ease, street prices are already kicking around the £149 mark, and it has widespread support among sound cards. All of which makes the FX001D *the budget CD-ROM drive to buy* if you have to buy now and money's tight.

John Bennett

★★★★

- **Supplier:** Mitsumi
- **Contact** (0276) 29029
- **Price** £199.00

Double speed, tray loader CD-ROM drive. MPC2 compliant, with 16-bit card interface.

FlightMAX

Analogue joystick

Somebody, somewhere deep within Suncom Technologies' think tank, has clearly put a lot of brain hours into the FlightMAX. As flight system joysticks go, it offers a well planned approach to design, and many of the features you want to see.

This includes the basics, like a sturdy construction, decent length cable, and a wide base for one hand operation.

You get two control buttons whose functions you can swap to get the best feel on any particular game, and throttle controls that can be worked equally easily by left or right handed people.

These and the rudder may not work on all games because they simply simulate a second joystick, and not all games work on that system, but you can always spend close on £200 on a Thrustmaster and WCS II for the ultimate in adaptability. The FlightMAX does a laudable job for £40.

The 'Saturn-Ring' technology within gives a good fluid feel without being sticky in any way, and seemed pretty robust and precise even on arcade games.

My one gripe with the FlightMax was the centring trimmer, which is intended to make life easier where the calibration in the game isn't the best. Unfortunately, the sliders are way too loose and tended to move of their own accord every now and again, leaving me suddenly banking to the left despite leaning the stick to the right, and wondering what was going on. This is no small matter, either, and compromised my trust in the joystick controls somewhat.

A reasonably priced, good performer, the FlightMAX falls slightly here, but only slightly. Otherwise it's perfectly competent and definitely rates a look if you're a sims kind of person.

Martin Klimes

★★★

- **Supplier:** Suncom
- **Contact** (0285) 642211
- **Price** £39.99

Any PC with a joystick port. Suncom would like to think that you'll use their Gameport 200, but any port will do, really.

Western Systems 486/25

Multimedia PC

Here's a multimedia PC that absolutely typifies the entry level ingredients for today's standards. What you have to bear in mind is that 25Mhz machines are already beginning to struggle with the latest multimedia products and 4Mb is no more than the bare minimum for heavy duty games.

So, what you're looking at is a good starter PC, that will need to be upgraded in the near future. Which makes it all the more surprising that it isn't that easily upgradable — certainly not in the RAM department where you'd practically need to dismantle the entire cradle assembly just to get a peek at the SIMMs.

Still, if you can live with that, the Western Systems 486/25 offers a good range of features for first time multimedia PC. For example, after booting the machine you get an immediate prompt and option to back-up (a useful and constant reminder for something that often gets put off or forgotten) and simple access to either DOS 6.2 or Windows 3.1 from a basic front-end.

To go with the passable double speed CD-ROM drive and 16-bit Sound Blaster clone, you get an excellent bundle of CD-ROM software. Among the titles are Chessmaster 3000, King's Quest IV, Dune, The Software Toolworks' Multimedia Encyclopedia, MS-Works and Mavis Beacon Teaches Typing. Then add Macromedia's Action and Authorware Star! plus Jurassic Park on floppy disk. In all, 19 titles.

All in all, a good entry-level multimedia package which has performed reasonably consistently but without breaking any speed records, and slightly hampered by the odd awkward design feature.

Paul Boughton

★★★

- **Supplier:** Western Systems
- **Contact** (081) 845 8383
- **Price** £1,468

25MHz 486SX, 4Mb RAM with 210Mb hard drive, 128K cache, 14" SVGA monitor , speakers, Panasonic 563B CD-ROM, sound card, mouse.

Gameport 2000

Twin joystick card

Check it out. Two joystick ports attached to a small but functional circuit board, and a couple of extra dangly bits. That's right, not only can you hook up two sticks to the same computer for your head to head play but now you can also line your internal speaker sound through proper speakers.

I tried it out, and it's pretty bizarre stuff. Not the joystick part. That's fine, and works on just about any PC you could want to put it in. No, it's the sound that stumped me. There's something not quite right about the obnoxious Windows pings and event effects blasting through my amp and speakers at a deafening volume.

I could use it as a burglar deterrent. Take that really unpleasant screechy noise (any one, they're all unpleasant screechy noises on the internal speaker) and play it at volume ten every hour or so when I'm out.

Interesting gimmick, guys, but let's be honest. That's all it is. The Gameport 2000 will sell more because it's well built and does the basics rather than the off-beat 'unique feature'.

Martin Klimes

★★★

Supplier: Suncom
Contact (0285) 64221
Price £24.99

■ Plug and play into any PC. All you need is a free slot in your machine, and you're set.

NEC Win Printer

How does NEC get away with its claims to have the "fastest printer in the world" — featured in our stunning competition on pages 30-31— without being rapped by the advertising standards people?

Well, the reason is that the claims are true — to an extent. The NEC WinPrinter is the first of a new breed of 'dumb' laser printers which rely on the processing power of the PC for speed, rather than their own engine. The result is a printer which goes as quickly as the PC it's hooked up to (and provided you're printing from Windows). Hook it up to a Pentium PC and it'll run like Ben Johnson on benzedrine. On a slow PC, it's not going to shift the pages along so quickly. Upgrade your PC, and the printer goes faster as well. It could spell the end of the traditional approach to printers.

NEWSWEEK INTERACTIVE

Behind the Screens

Multimedia edition of Newsweek

Supplier: Software Toolworks
Contact (0444) 246333
Price £39.99

■ 33MHz 386, 4Mb RAM, VESA-compatible SVGA card, CD-ROM drive, Sound Blaster or Pro Audio Spectrum.

This is the second edition of Newsweek's quarterly multimedia issues, which take stories from the original magazine and revise them with speech, photos and video clips on CD-ROM. The results are impressive. Both issues actually make use of the multimedia elements to add an extra dimension to the stories and help your understanding of the subject.

Behind the Screens leads with a story about the development of computerised special effects in the movies — a clever choice since CD-ROM owners are likely to have some interest in the subject matter. The whole 'article' is narrated, and illustrated with plenty of colour stills (from Death Becomes Her, In the Line of Fire, Jurassic Park, and also early effects from King Kong, The Vanishing Lady and The Great Train Robbery) to demonstrate the point being made.

The 'second lead' concerns the debate in the US about changes to health care provisions and how to balance 'health care for all' versus increased costs, again liberally illustrated with photos from inside hospitals, from abortion protest marches, from pharmaceutical companies ... anything that helps to tell the story.

Each piece is accompanied by a 'face to face' interview section where you can choose questions from a list to pose to six talking heads (animated video again) on-screen. If you've read the LucasArts profile on page 42, you may be interested to know that Dennis Muren of Industrial Light and Magic is included in this section for the special effects story. There are also short 'photo essays' on each topic — a short commentary on ILM, for instance, taken from the main 'article'.

Finally, you can read articles taken from Newsweek back issues, or clippings from the Washington Post and view the videos and photos separately.

The whole thing is extremely well-presented: the interface is intuitive, pictures are of good quality, sound and speech are clear. One can't help feeling that some day, all magazines will be like this.

Christina Erskine

★★★★

AKIO Entertainer Plus

Multimedia/games PC

If you fancy a brand spanking new PC, and want multimedia capabilities pre-installed, then slap a bag of 1,500 pound coins down on the table and Akio will put a 486/33 together for you. So will any number of other people, of course, and that's the crunch.

Akio would like to point out that their PCs are particularly well put together, user friendly, and that they pride themselves on the quality of customer service. They aren't the type of people to leave you in the lurch after they've got your cash, God forbid.

As a small, dedicated outfit they indeed have that personal touch to after-sales service that's nice to see, and due to them getting the men at Granada to service on site they don't lose the resources of bigger places. The documentation that comes with the Akio PC is good, too.

It's the actual machines I'm not 100% certain about. They perform well enough, and all, but there were moments I raised an eyebrow at some of the things I found.

Forget the insides for a moment. They aren't the neatest, but I've seen worse. No, it was things like the front panel that brought tears to my eyes. Installing a floppy drive vertically I can accept. Putting the eject button next to the power switch I can't. How many times did I power off in error when I wanted to get my disk back? Too many, I can tell you.

And sticky-out reset switches are just dying to be knocked by accident. All in all, I saw far too many boot screens when I wasn't planning to.

Akio is on the right lines with the Entertainer Plus: it performs well for the price and the specification. But, it needs to sort out some of the finer point to beat the substantial competition to the customers.

Martin Klimes

★★★

Supplier: Akio
Contact (0472) 351200
Price £1,500

■ 486/33 PC with 4MB RAM, a 170MB hard disk and SVGA graphics card/monitor. Double speed CD-ROM drive and 16 bit sound card.

CD-ROM SOFTWARE

The Rock 'n' Roll Years: the 50s

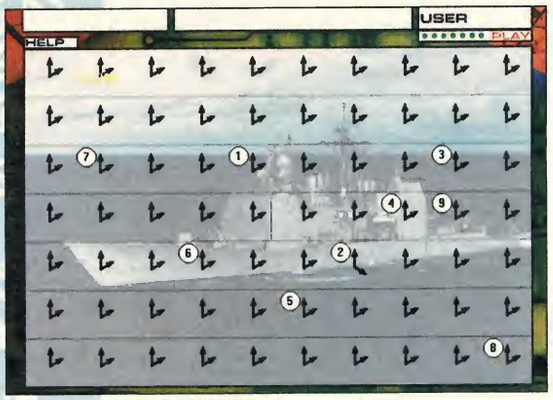
Trivia/reference guide

The publishers won't thank me for saying this, but The Rock 'n' Roll Years is broadly a CD-ROM equivalent to those Guinness Books of Hit Singles. You get a textual commentary on each year in the decade, taken month by month and accompanied by both the UK and US charts for each month. There is also a trivia quiz of 700 questions (not enough, really, to sustain the interest for any length of time) and 13 audio/video clips, which are also used for 'multimedia' questions in the quiz.

The quiz is mildly entertaining and well presented with plenty of different animations to indicate whether you got answer right or wrong, but there are too many questions asking "What was the year that such-and-such peaked in the US charts?", which 40-odd years later, can only be guessed at unless you have studied the chart section of the disk. There

SOFT KILL

Computer Movie CD



Oh dear. I've always thought that many of the 'interactive movies' around are pretty poor, but now I've found something worse. An interactive movie that doesn't even try to add any game. Step forward Soft Kill and take your rightful place on the podium, because you are this month's grand winner in the hotly contested category of 'Multimedia Turkey'.

Conceptually it seems such a good idea. The reasoning goes something like this: today's movies are good, but you still sit there and just watch it unfold the way the director wants. What if you could take elements and mix them along sub-plot or character lines to come up with a finished product that's far more what the individual audience wants?

Enter the Matrix Interface. You travel around a grid, with each square representing a different scene. As you go from left (the start) to right (the end) you can introduce different themes at each stage. Fine, as long as the quality of the techno-thriller story and characterisation are as good as a movie, and the scenes are of movie standard; ie full screen full motion video of better than SVGA resolution in Dolby Surround-sound. They aren't, which isn't altogether surprising considering the standard of today's PC technology and the tiny fact that $50 million wasn't spent producing Soft Kill, unlike its film rivals.

For the time being, my advice remains the same — steer well clear of anything with 'movie' in the title. Chances are, like this particular pile of garbage, that somebody saw a CD- ROM drive and thought that he could do far more than was realistically possible.

Soft Kill, it's no Die Hard.

Martin Klimes

★

Supplier: Compton's New Media
Contact (081) 838 1280
Price £31.71t

20 MHz 386 PC, 2Mb RAM, SVGA , a Sound Blaster, or Media Vision compatible sound card, a CD-ROM drive, and Windows 3.1 are a must.

also are a morbidly large number of questions about the Buddy Holly/Ritchie Valens plane crash, including "How much did Holly pay for his ticket?", which strikes me as bordering on the tasteless.

The video shorts are probably the most interesting aspect of the program, and include Eddie Cochran singing Summertime Blues, which had us all stomping round the office asking why they didn't write them like that any more.

But while Bill Haley and the Comets singing Rock Around the Clock, and Jackie Wilson and Reet Petite are in, there's no Elvis, no Buddy Holly, and the omission of Jerry Lee Lewis on video is little short of criminal.

Good for pub quiz compilers, but despite the wealth of information, The Rock and Roll Years: the 50s feels like a slim volume. Companion CDs on the 60s, 70s and 80s are due out later this year.

Christina Erskine

★★

Supplier: Supervision
Contact (071) 702 9391
Price £24.99

386DX PC minimum, with 4Mb of RAM, SVGA, CD-ROM, sound card and Windows 3.1. 486SX PC or faster recommended.

Digital Love

CD relaxation program

Next time you feel the tension mounting after your third "Not enough memory" error message in an hour, consider chilling out with Digital Love. Dim the lights, loosen tight clothing (it says here in the manual) and run this collection of software modules — from music videos and kaleidoscopic on-screen patterns, to colour therapy, chanting and yoga. If it sounds terribly new age-y, well ... it is.

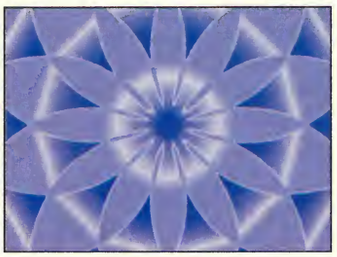
Colour therapy is not greatly enhanced by the computer, since it seems to involve staring at a single block of colour, again with musical accompaniment. If you want to try chanting, the chant to follow is delivered through the speakers and the manual provides a phonetic transcription to make sure you get it right. The yoga section shows a set of simple exercises — nothing too gymnastic or advanced — to follow to loosen muscles. The manual, incidentally, contains plenty of warnings about the advisability of consulting a doctor before you try anything too strenuous.

The one that worked best for me was the first module, not that you need to approach them in any particular order, the music videos.

You look at a screen full of gently cycling patterns while synthesised chords play through the speakers or

Supplier: Software Toolworks
Contact (0444) 246333
Price £39.99

Requires a 86SX PC minimum, 2Mb RAM, Windows with multimedia extensions, CD-ROM drive .



preferably headphones. The effect is certainly mesmeric and the patterns would make a great screen saver. This section also has the merit of being the only one which you couldn't do perfectly well on your own without the computer provided you knew the right chant or had a yoga book.

If you're sympathetic towards these 'therapies' you may still find Digital Love a bit superficial — it doesn't go all that far into the theories and techniques of positive relaxation. And sceptics will need more than this to become converts.

Christina Erskine

★★

Dr Schueler's Home Medical Advisor

Alternative medical reference CD

A few years ago I seem to remember a rash of medical handbooks brought out either as huge encyclopedic tomes or serialised in newsagents for home use in their ever so reasonably priced binders. Then they seemed to disappear for a while. And now they're back, on CD-ROM — a new lease of life for all those consultants who couldn't make it on Harley Street.

Dr Schueler's, like Home Remedies reviewed last issue, is a well-intentioned attempt to put an elementary reference at our fingertips, possibly to give us something to look at instead of constantly bothering our hard worked GPs.

Schueler's also suffers from the basic Home Remedies problem of not all doctors being accomplished computer programmers and vice versa. With Home Remedies you got a fairly sound computer package full to bursting of dross information on largely cosmetic subjects. In Schueler's you suffer it the other way around, with plenty of useful and informative detail discussed by symptom, diagnosis, toxin, or whatever, but all couched in a fairly atrocious interface.

As interesting as the diagnoses are, and as much of a boon they are for hypochondriacs everywhere, the product is visually garish, and lacks a cross reference that would tie in all the various parts.

In fact, the most complete area of the entire package is the absurdly lengthy disclaimer that you get not only on paper with the instructions but also in full when you load it up. Just for good measure they repeat it as you exit to DOS or Windows. The fact that Dr Schueler, he of the department of emergency medicine in Melbourne, Florida, feels he needs such extensive cover from prosecution does give you pause for thought. But then, I suppose Americans are notoriously litigiously minded.

It's hardly the most polished piece of software, but at least it goes into some detail on real medical needs and attempts to tell you what's wrong with you in layman's terms, and it deserves some credit for that.

Martin Klimes

★★★

Supplier: Different Angle
Contact (081) 450 0654
Price £29.99

EGA or VGA graphics, DOS or Windows, Keyboard or Mouse, the choice is yours. Dr Schueler isn't fussy.

Computermate

Freepost 575, The Wheel, Robin Way, Cuffley, Herts, EN6 4BR
Tel: (0707) 875757 Fax: (0707) 875513

VISA Access SWITCH

Mon - Fri 8am - 8pm
Sat 9am - 7pm

ALL PRICES INCLUDE VAT & P&P (UK ONLY)

Special Offers

AIR,LAND,SPACE (MIG 29, STARGLIDER 2, 4D SPORTS DRIVING)	£22.99
BIG BUSINESS SIMULATOR	£19.99
BRIDGE PLAYER (5.25 ONLY)	£7.99
CHESSMASTER 2100	£17.99
CONQUEROR (5.25 ONLY)	£7.99
DAS BOOT	£14.99
FOOTBALL DIRECTOR	£9.99
GRAN PRIX UNLIMITED	£19.99
GUNSHIP 2000 (EGA)	£19.99
EL FISH	£14.99
FLASHBACK + JOYSTICK OR GAMEPAD	£26.99
KINGS QUEST 5	£19.99
LEMMINGS 2	£24.99
LIFE & DEATH 2 (THE BRAIN)	£19.99
MEGAFORTRESS	£19.99
MINI OFFICE PERSONAL XT/AT	£14.99
NIGEL MANSELL	£17.99
PIRATES GOLD	£24.99
PREMIER MANAGER 1	£17.99
REALMS	£14.99
SENSIBLE SOCCER + JOYSTICK OR GAMEPAD	£26.99
SIM LIFE	£19.99
SHADOW OF YSERBIUS	£19.99
SPEAR OF DESTINY	£19.99
SPECIAL FORCES	£14.99
STAR GLIDER 2	£7.99
TRIVIAL PURSUIT	£7.99
WINDOWS 3.1	£30.00
WORDTRIS	£19.99

The CD Player

7TH GUEST/DUNE	£44.99
10TH ANNIVERSARY COLLECTION	£42.99
360 COMPILATION (inc Knights of the Sky, Mega Fortress, Das Boot)	£29.99
ACES COLLECTION	TBA
ALONE IN THE DARK	£39.99
ATP + EAST & WEST	£69.99
BATTLE ISLE II	£42.99
BENEATH A STEEL SKY	£42.99
BLOODNET	£36.99
BRITANNIA FAMILY CHOICE	£39.99
CALIFORNIA/HAWAII GOLF GUIDE (INC LINKS)	£29.99
CENTRAL INTELLIGENCE	TBA
CHESSMASTER 3000 (MULTIMEDIA)	£29.99
CLIPMASTER PRO	£49.99
DAY OF THE TENTACLE	£39.99
DRAGONSPHERE	£36.99
FONTS PRO	£49.99
GABRIEL KNIGHT	£39.99
GREAT NAVAL BATTLES 1	£39.99
GREAT NAVAL BATTLES II	£34.99
GROLIER ENCYCLOPAEDIA	£49.99
GUINESS DISK OF RECORDS	£29.99
IRON HELIX	£36.99
JAZZ	£54.99
JFK ASSASINATION	£44.99
KINGS QUEST 6	£24.99
KODAK CD-ACCESS	£29.99
LANDS OF LORE	£36.99
LAURA BOW II	£24.99
LAWNMOWER MAN	£44.99
LEGEND OF KYRANDIA	£39.99
LEMMINGS DUAL PACK	£29.99
LEISURE SUIT LARRY 1-5	£42.99
LEISURE SUIT LARRY 6	£39.99
MAVIS BEACON TYPING	£39.99
MEGARACE	£34.99
MICROCOSM	£44.99
MICROSOFT ART GALLERY	£49.99
MICROSOFT BEETHOVEN	£49.99
MICROSOFT CINEMANIA	£49.99
MICROSOFT DINOSAURS	£49.99
MICROSOFT ENCARTA	£99.99
MICROSOFT MUSICAL INSTRUMENTS	£49.99
MONKEY ISLAND I	£40.99
OUTPOST	£42.99
REBEL ASSAULT	£42.99
RETURN TO ZORK	£42.99
ROCK & ROLL THE 50'S	£24.99
SECRET WEAPONS OF THE LUFTWAFFE (INC ALL MISSION DISKS)	£45.99
SAM AND MAX	£39.99
SIM CITY (ENHANCED)	£42.99
SPACE HULK PLUS	£36.99
SPACE QUEST 4	£24.99
STAR TREK 25TH ANNIVERSARY	£44.99
STAR WARS CHESS	£44.99
STRIKE COMMANDER	£42.99
SYNDICATE PLUS	£36.99
TFX	£44.99
TORNADO	£42.99
ULTIMA UNDERWORLD 1&2	£44.99
ULTIMA 8 PAGAN (INC SPEECH)	£44.99
UNDER KILLING MOON	£TBA
WORLD ATLAS 2	£24.99
WORLD ATLAS 4	£39.99

The Library

EPIC FLIGHTS	£19.95
FLYING OVER EUROPE	£13.95
CORNISH'S PC GAMES GUIDE	£13.95
HOW TO DEAL WITH DISK DISASTERS	£14.95
PC COMPATIBLES FOR THE PETRIFIED	£12.95

PLUS FULL RANGE OF ALL KUMA & PRIMA BOOKS FOR THE PC

NEW CATALOGUE NOW AVAILABLE FREE

TECH SUPPORT MOUSE MAT ON ALL ORDERS OVER £35

The Golf Club

DAVID LEADBETTERS GOLF (Microprose)	£26.99
LINKS ORIGINAL	£14.99
COURSES: BAYHILL, BOUNTIFUL, DORADO, NORTH TROON (US)	EACH £19.99
LINKS PRO (386, 486, SVGA ONLY)	£39.99
COURSES: (BANFF, BIG HORN, CASTLE PINES, FIRESTONE, INNISBROOKE, MAUNA KEA, PEBBLE BEACH, PINEHURST 2,THE BELFRY)	EACH £20.99

The Locker Room

THE GAMES (ESPANA '92)	£22.99
FIFA FOOTBALL	TBA
FRONT PAGE SPORTS FOOTBALL PRO (US)	£34.99
GRAHAM GOOCHES CRICKET	£29.99
KICK OFF 3	TBA
NHL HOCKEY	£36.99
PREMIER MANAGER 2	£24.99
TV SPORTS BASEBALL	£14.99
TV SPORTS BOXING	£14.99
UNNECESSARY ROUGHNESS	£34.99
WINTER OLYMPICS	£32.99
WORLD CUP 94	TBA

The Office

AUTOROUTE EXPRESS	£89.99
AFTER DARK/MORE AFTER DARK	£44.99
DESIGNWORKS	£99.99
DELUXE PAINT ENHANCER V2.4	£89.99
DOS 6.2 UPGRADE (Until 30/5/94)	£57.99
DR SOLOMANS VIRUS KILLER	£44.99
EXPRESS PUBLISHER	£99.99
FRENCH/GERMANASSISTANT	EACH £89.99
ITALIAN/SPANISH ASSISTANT	EACH £89.99
KEY FONTS WIN/DOS	EACH £46.99
MAVIS BEACON 2 DOS & WINDOWS	EACH £29.99
MAVIS BEACON XT 3.5" ONLY	£19.99
MICROSOFT WORKS DOS & WINDOWS	EACH £119.99
PRINT SHOP DELUXE	£44.99
QEMM 7	£84.99
QUICKEN (DOS)	£49.99
QUICKEN (WINDOWS)	£59.99
QUICK INVOICE	£39.99
SCREEN CRAZE (Screen Saver)	£29.99
STAR TREK SCREEN SAVER	£34.99
VISTA PRO	£89.99
WINDOWS 3.1 (UPGRADE)	£49.99
WINDOWS 3.1 & MOUSE	£64.99

The Classroom

BETTER SPELLING	£19.99
BODYWORKS	£49.99
CASTLE OF DR BRAIN	£26.99
CHEMISTRY WORKS	£29.99
COMPUTER WORKS	£34.99
DISTANT SUNS	£69.99
ELECTRONICS	£19.99
FUN SCHOOL 4 UNDER 5, 5-7, 7-11	EACH £22.99
HENRIETTA'S BOOK OF SPELLS VGA	£29.99
HOORAY FOR HENRIETTA VGA	£29.99
ISLAND OF DR BRAIN	£26.99
ITALIAN TUTOR	£18.99
MAGIC MATHS	£19.99
MEGA MATHS	£22.99
MICRO ENGLISH,FRENCH,SPANISH	EACH £22.99
MICRO MATHS, SCIENCE	EACH £22.99
MIXED UP FAIRY TALES	£24.99
MS CREATIVE WINTER	£42.99
MS FINE ARTIST	£42.99
NODDY'S PLAY TIME	£26.99
NODDY'S BIG ADVENTURE	£26.99
PC GLOBE (Maps & Facts)	£39.99
PHYSICS	£22.99
SPELL BOUND	£29.99

The Hardware Store

ADVANCED GRAVIS PRO JOYSTICK	£49.99
CH FLIGHT STICK	£39.99
CH FLIGHT STICK PRO	£69.99
GALAXY NX PRO CARD (Inc speakers)	£99.99
GRAVIS GAMES PAD	£22.99
JOYSTICK SMART CARD (8-80 Mhz)	£14.99
JOYSTICK Y CONNECTOR	£10.99
NOTEBOOK MOUSE	£14.99
PC SERIAL MOUSE	£14.99
PYTHON DIGITAL JOYSTICK	£10.99
QUICKSHOT SOUND PACK (Inc Soundblaster Card, Warrior Joystick & Speakers + 3 GAMES)	£99.99
SOUND MATE SPEAKERS	£17.99
STARFIGHTER DIGITAL GAMES PAD	£9.99
THRUSTMASTER JOYSTICK	£79.99
THRUSTMASTER WEAPONS CONTROL SYSTEM	£104.99
VIRTUAL PILOT	£84.99
WARRIOR PLUS	£17.99

The Think Tank

10 INTELLIGENT STRATEGY GAMES (Backgammon, Bridge, Chess, Drafts Go & 5 others)	£29.99
ACROSS THE RHINE	£36.99
ANCIENT WAR OF WAR IN THE SKY	£24.99
ARNHEM, ANCIENT BATTLES, VULCAN	£24.99
BATTLECHESS I	£10.99
BATTLE ISLE II	£34.99
BLUE & THE GREY	£34.99
CAMPAIGN II	£34.99
CARRIERS AT WAR	£34.99
CARRIERS AT WAR 2	£37.99
CHESSMASTER 3000 (DOS)	£24.99
CHESSMASTER 4000 (WINDOWS)	£29.99
CIVILIZATION	£29.99
CLASH OF STEEL	£34.99
DUNE 2	£30.99
ELITE II THE FRONTIER	£34.99
FIELDS OF GLORY	£36.99
GENESIA	£29.99
GREAT NAVAL BATTLES	£34.99
ATLANTIC SUPER SHIPS	£15.99
AMERICA IN THE ATLANTIC	£15.99
SCENARIO BUILDER	£15.99
GREAT NAVAL BATTLES 2 (GUADALACANAL)	£34.99
HARPOON 1	£34.99
DESIGNER SERIES	£17.99
BATTLESETS 3	EACH £13.99
SCENARIO EDITOR	£15.99
HARPOON 2	£37.99
HIGH COMMAND (SVGA)	£39.99
HISTORY LINE 1914-1918	£34.99
INCREDIBLE MACHINE (EVEN MORE)	£34.99
KASPOROV'S GAMBIT	£34.99
KINGMAKER	£32.99
MASTERS OF ORION	£36.99
MONOPOLY (UK)	£27.99
NAPOLEONICS (Austerlitz, Borodino, Waterloo)	£29.99
OMAR SHARIF'S BRIDGE (DOS/WINDOWS)	EACH £34.99
PACIFIC WAR	£34.99
PATRIOT	£39.99
PERFECT GENERAL (TRIPLE PACK)	£39.99
PRIVATEER	£42.99
SPEECH ACCESSORY PACK	£17.99
RIGHTEOUS FIRE	£17.99
RAILROAD TYCOON DELUXE	£36.99
SCRABBLE DELUXE (CGA/EGA)	£17.99
SRABBLE (VGA)	£26.99
SEA WOLF SSN 21	£3799
SID & AL'S INCREDIBLE TOONS	£34.99
SIM CITY 2000	£34.99
GREAT DISASTERS	£12.99
SIM EARTH	£17.99
SIM LIFE	£19.99
STAR LORD	£36.99
SUB WARS 2050	£36.99
TURNING POINTS (AUSTERLITZ, BORODINO, WATERLOO)	£29.99
TASK FORCE 1942	£36.99
TEAM YANKEE	£19.99
THEME PARK	£37.99
THE SETTLERS	£34.99
TIMES CROSSWORD (120)	£14.99
TRIVIAL PURSUIT DELUXE	£14.99
UFO	£36.99
UNATURAL SELECTION	£26.99
V FOR VICTsORY 3 (MARKET GARDEN)	£37.99
V FOR VICTORY 4 (GOLD JUNO SWORD)	£34.99
WAR IN RUSSIA	£36.99
WORDTRIS	£19.99

The Hangar

1942 PACIFIC AIR WAR	£36.99
A320 AIRBUS	£29.99
AIR TRAFFIC CONTROL	£39.99
AIR COMBAT CLASSICS (Battle of Britain, Battlehawks, SWOTL)	£39.99
ACES OVER EUROPE	£34.99
AIRLINE TRANSPORT PILOT V.D	£29.99
ATP UPGRADE	£9.99
ATAC	£26.99
AV8 HARRIER (SVGA)	£29.99
BATTLE OF BRITAIN	£14.99
CHUCK YEAGARS AIR COMBAT	£12.99
DOG FIGHT	£26.99
EVASIVE ACTION	NOW £29.99
F14 FLEET DEFENDER	£36.99
F19 STEALTH FIGHTER/MIG 29 DUAL PACK	ONLY £19.99
FALCON 3 (Ver D) & MIG 29	£39.99
MIG 29	£21.99
HORNET FA18	£34.99
FLIGHT LITE	£26.99
GUNSHIP 2000	£26.99
ICE & ISLANDS	£21.99
FLIGHT SIM 4	
AIRCRAFT & ADVENTURE FACTORY	£29.99
FLIGHT 911, 685, 701	EACH £19.99
AIRCRAFT & FACILITY DIRECTORY	£19.99
PILOTS POWER TOOLS (INC FLIGHT PLANNER)	£29.99
AIRCRAFT & SCENERY DESIGNER	£29.99
GRAPHICS & SOUND UPGRADE	£19.99
FS PRO	£19.99
NEW FACILITIES LOCATOR	£17.99
SCENERY DISKS	
EUROPE, HAWAII, JAPAN (SUB LOGIC)	EACH £14.99
EXOTIC ISLANDS	£17.99
CALIFORNIA COLLECTION	£34.99
GRAND CANYON, HAWAII, TAHITI	£15.99
GREAT BRITAIN SCENERY 3 DISK SET	£34.99
ITALY	£32.99
NORTHERN ENGLAND VER. 2	NOW £22.99
REAL WEATHER PILOT	£24.99
SCENERY ENHANCEMENT EDITOR	£19.99
QUICK SCENE	£14.99
US EAST/WEST	EACH £39.99
FLIGHT SIM 5	£36.99
PARIS/NEW YORK	EACH £19.99
SAN FRANCISCO/WASHINGTON	EACH £26.99
FLIGHT SHOP	£26.99
MAXIMUM OVERKILL	£39.99
MISSION DISK 1	£21.99
MISSION DISK 2	£21.99
MEGAFORTRESS	£19.99
OVERLORD (D DAY)	TBA
PACIFIC STRIKE	NOW £42.99
SPEECH ACCESSORY PACK	£17.99
SECRET WEAPONS OF THE LUFTWAFFE	£34.99
DO335, HE162 MISSION DISKS	EACH £15.99
STRIKE COMMANDER	£42.99
STRIKE COMMANDER SPECIAL OPS 1	£17.99
TFX	£37.99
TORNADO INC DESERT STORM	£36.99
DESERT STORM	£17.99
TOWER	TBA
WEREWOLF KA50	£34.99

The Leisure Zone

ALONE IN THE DARK II	£42.99
AWARD WINNERS 4 (ELITE PLUS, JIMMY WHITE, SENSIBLE SOCCER, ZOOL)	£26.99
BENEATH A STEEL SKY	£34.99
BETRAYAL AT KRONDOR	£34.99
BLOODNET	£36.99
CANNON FODDER	£29.99
CHAOS ENGINE	£26.99
DARK SUN. SHATTERED LANDS	£36.99
DAY OF THE TENTACLE	£36.99
DELTA V	£37.99
DOOM (FULL VERSION)	£32.99
DUNE	£14.99
DUNGEON HACK	£34.99
ELDER SCROLLS	£37.99
EPIC	£22.99
EYE OF THE BEHOLDER 1	£14.99
EYE OF THE BEHOLDER 2	£14.99
GABRIEL KNIGHT	£34.99
GOBLINS 3	£34.99
GRAND PRIX (Formula 1) Inc Editor	£29.99
HAND OF FATE	£34.99
INDY CAR RACING	£36.99
KINGS QUEST 6	£34.99
LANDS OF LORE	£32.99
LEATHER GODDESSES OF PHOBOS II	£26.99
LEISURE SUIT LARRY 6	£34.99
LEMMINGS II The Tribes	£24.99
LOST TREASURES OF INFOCOM 1 (20 games)	£26.99
MS ENT PACK FOR WINDOWS 1,2,3 & 4	EACH £19.99
MS ARCADE (Asteroids, Battlezone, Centipede + 2 more)	£19.99
MONKEY ISLAND 1	£14.99
MONKEY ISLAND 2 (Le Chucks Revenge)	£29.99
MORTAL KOMBAT	£26.99
PINBALL FANTASIES	£32.99
PIRATES GOLD	£29.99
POLICE QUEST IV	£34.99
PRINCE OF PERSIA I	£10.99
QUEST FOR GLORY 1 (VGA)	£29.99
QUEST FOR GLORY 3 (WAGES OF WAR)	£34.99
RETURN TO ZORK	£37.99
ROBOSPORT (WINDOWS)	£26.99
SAM & MAX HIT THE ROAD	£36.99
SHADOWCASTER	£37.99
SIMON THE SORCEROR	£34.99
SPACE QUEST 1-4 VGA	£44.99
SPACE QUEST 5	£34.99
STAR TREK JUDGEMENT RITES (Ltd Ed inc Video)	£37.99
STREETFIGHTER II (Inc Strategy Guide)	£26.99
SYNDICATE	£37.99
DATA DISK (American Edition)	£17.99
THE GREATEST (DUNE, LURE OF THE TEMPTRESS, SHUTTLE)	£29.99
TIE FIGHTER	£TBA
ULTIMA 7 II (SERPENT ISLE)	£36.99
ULTIMA VIII (PAGAN)	£42.99
SPEECH ACCESSORY PACK	£17.99
ULTIMA UNDERWORLD II (Labyrnth of Worlds)	£34.99
ACCESSORY PACK	£17.99
WING COMMANDER 1	£12.99
Mission disks 1 & 2 Dual Pack	£17.99
WING COMMANDER 2 PLUS SPEECH	£34.99
Special Operations 1 & 2 Dual Pack	£21.99
WIZARDRY 7 (Crusaders of the Dark Savant)	£39.99
WOLFENSTEIN	£17.99
WORLD CUP 94	TBA
X WING	£36.99
MISSION DISK (Imperial Pursuit)	£17.99
MISSION DISK 2 (B Wing)	£17.99
ZORK 1 & 2	£14.99

All prices include VAT & P&P (UK only) are are subject to change without notice. Products offered subject to availability. E&OE. Please state Processor and Screen Type & disk size when ordering and allow sufficient time for cheque clearance. Callers by appointment only. If a product you require is not listed please call.

BUTTERFLIES OF THE WORLD

Educational/reference CD

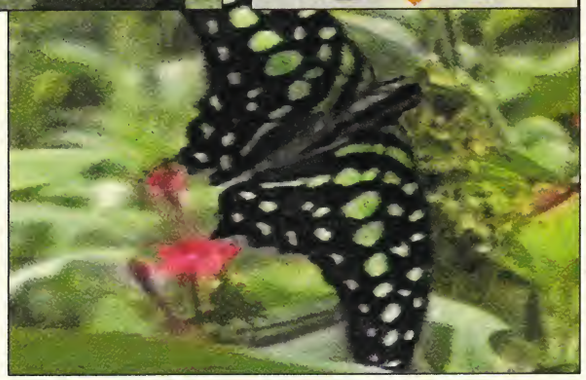
Supplier:	Media Design Interactive
Contact	(0252) 737630
Price	£29.99

Minimum 386 PC — 486 recommended — Windows 3.1, CD-Rom drive and soundcard.

If you were suddenly overwhelmed by a desire to know all about butterflies, what would you do? Would you buy a book or would you buy MDI's multimedia reference work Butterflies of the World?

For me it would still be a book. And that's because the promised potential of the multimedia experience is very rarely realised.

This product perfectly illustrates this. The colour photographs and illustrations about the thousands and thousands of these insects, the wealth information on their life cycle, mating habits etc are all very nice, informative and entertaining but nothing that couldn't be found in a book. What a book can't offer is the video clips. But here Butterflies of the World fails.



For example, the clip of Hebomoia leucippe, or Orange Tip, is awful. The fuzzy video insert shows the insect sitting on what looks like the a fence, wings folded. The wings start to open and then ... it flies off in a flash, giving almost no chance to see anything. The clip last maybe 10 seconds. What is the point? And many of the video clips are similarly irrelevant.

Another gripe is that the butterflies are only indexed under their Latin names. It would have been useful to have an index of common names as well. This makes it almost impossible to track down information on, say, the Large White (Latin name Pieris brassicae).

That said, Butterflies of the World was thoroughly interesting to browse through. For instance, did you know butterflies do not have veins or arteries. Their insides are "bathed in blood which fills the whole of the body cavity." Fascinating, if slightly disturbing.

Paul Boughton

★★

Forever Growing Garden

Horticultural/education CD

There are times when I marvel at the things we can now teach our children on a PC. Not only can they learn about art without ever taking a crayon to your best table cloth, but it also appears that they can do a fair imitation of Percy Thrower without ever leaving the confines of the Windows desktop. Remarkable, but is this really the end of muddy footprints all over the house?

Perhaps not. Which isn't to say that Forever Growing Garden isn't a nice little CD. It is, and offers plenty of interesting moments for the budding gardeners of the family. Aimed at four to 10 year olds, FGG offers a garden, allotment or castle grounds to plant and water all sorts of beautifully depicted cartoon versions of your favourite flora, including snap dragons that actually snap and Tomatoes with real toes. You can then watch them grow and nurture them on screen, or slow down time so that one real day is one virtual garden day, leave the computer, and come back a couple of weeks later for an update.

What it does it does well, but somehow the chance of it getting across the exhilaration of being outside with the flowers was always pretty slim. Play through a couple of gardens and the question, "Can we go out now, and try this?" is bound to come up, at which point you put on your old jacket and head for the garden, allotment or local park. FGG is likely to sit on a back shelf gathering weeds from that moment.

I grew up in the country, and so it is much to the embarrassment of my parents that I'm about as green-fingered as a can of defoliant. With access to Forever Growing Garden I might have shown an interest in things botanical a little earlier, but there's not an awful lot being actually taught here. At the price it's an expensive prod in the horticultural direction where a bit of enthusiasm from the parents would likely as not intrigue most kids just as much.

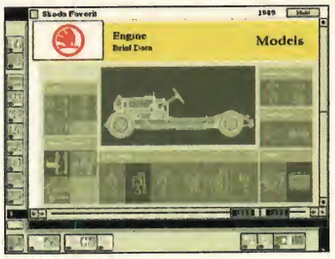
Martin Klimes

★★★

Supplier:	Media Vision/GEM
Contact	(0279) 412441
Price	£49.99

You won't get far without a 33MHz 386 PC with 4MB RAM, SVGA Graphics, a CD-ROM drive, sound card, and Windows 3.1.

SOFTWARE



The Classic Car Guide

A car buff's reference program

You like cars, eh? Do you like fast cars? Luxury cars? Classic cars, perhaps? You might just be wanting to take a peek at the Classic Car Guide, then.

What CCG is trying to do is offer you a mixture of encyclopedia and photo album of the most influential motor vehicles of all time. You get to plough through design features such as chassis and engine, and vehicle categories from country to manufacturer to model, and generally flip around the well cross-referenced database, getting the vital statistics and blueprints for over 300 cars .

All well and good, so far. However, where CCG seems to fall over its own feet is the scale of the task it has taken on. By definition a classic car enthusiast knows the basic of the subject matter already, and wants detail. Lots of it. Not mere acceleration and top speeds, but gearing ratios too. If the word torque doesn't come up somewhere then eyebrows will be raised. The quality of information in CCG is in depth indeed, but patchy and selective depending on the whim of the compiler.

Worse, the choice of which cars to include is just as selective, and not particularly wide, either.

Sure, they cover a Porsche 911, but what about the development of the 911 over the years, and all the other classic 911s? The Skoda Favorit gets a mention, but the selection of ground-breaking Volks-Wagens is very slender. CCG ends up being a fair product if you happen to agree with the programmers over which vehicles are classics. For the rest of us it is a rather half-hearted package all round.

Martin Klimes

★★

Supplier:	Software Partners
Contact	(0480) 493614
Price	£49.99

Just about any processor with VGA graphics, 7MB of hard disk space and a mouse will do.

STC

Stoneleigh Trading Company
P.O. Box 256
Epsom, Surrey KT17 2YB

Telephone : 081-786 8358
Fax: 081- 786 7533

IBM PC LEISURE GAMES

1942 - PACIFIC AIR WAR £29.99
ACTION STATIONS ***SPECIAL*** £14.95
A-TRAIN £24.99
A-TRAIN CONSTRUCTION KIT £14.99
ACES OF THE DEEP £27.99
ACES OF THE PACIFIC £25.99
ACES OVER EUROPE £27.99
ACROSS THE RHINE ..... CALL
AIR BUCKS 1.2 ..... £23.99
AIR COMBAT CLASSICS £28.99
ALONE IN THE DARK 2 ..... £29.99
AMBUSH AT SORINOR £25.99
ARCHON ULTRA £20.99
B WING £15.99
BATTLE BRITAIN £24.99
BATTLE ISLE '93 ..... £17.99
BATTLE ISLE DATA DISKS £14.99
BATTLE ISLE 2 ..... £26.99
BATTLECHESS 4000 ..... £23.99
BATTLEDROME-METAL TECH £25.99
BATTLES OF THE SOUTH PACIFIC £29.99
BBC GARDENERS WORLD 3D DES KIT £15.99
BENEATH A STEEL SKY £25.99
BETRAYAL AT KRONDOR £27.99
BLITZKRIEG ***SPECIAL*** £14.95
BLUE AND THE GREY £27.99
BLUE FORCE £25.99
BREACH 3 ..... £26.99
BURNING RUBBER £19.99
BUZZ ALDRIN £31.49
CEASAR DELUXE £23.99
CALIFORNIA GAMES 2 ..... £25.99
CAMPAIGN £25.99
CAMPAIGN 2 ..... £25.99
CAMPAIGN MISSION DISKS £14.99
CANNON FODDER £24.99
CAR AND DRIVER £25.99
CARRIERS AT WAR £24.99
CARRIERS AT WAR CONST. KIT £25.99
CASTLES 2 ..... £24.99
CHAMPIONSHIP MANAGER COMPENDIUM £22.99
CHAMPIONSHIP MANAGER ITALIA £20.99
CHESS MANIAC £28.99
CHESSMASTER 3000 ..... £25.99
CIVILISATION £25.99
CLASH OF STEEL £25.99
COHORT 2 ..... £24.99
COMPLETE CHESS SYSTEM £24.99
CONFLICT IN KOREA ***SPECIAL*** £15.99
CONQUERED KINGDOMS £28.99
CYAN £31.99
CYBER RACE £28.99
D-DAY £25.99
DETROIT £26.99
EL-FISH £25.99
ELITE 2 - FRONTIER £26.99
EMPIRE DELUXE £28.99
EUROPEAN CHAMPIONS £19.99
EVOLUTION HUMANS IN TIME £26.99
EVOLUTION LOST IN TIME DATA DISKS £15.99
F14 FLEET DEFENDER £35.99
FANTASY EMPIRES £23.99
FIELDS OF GLORY £28.99
FLIGHT SIMULATOR 5 ..... £27.99
—— " —— SCENARIO 2 PARIS £20.99
—— " —— SCENARIO 1 NEW YORK £14.99
FOOTBALL MANAGER 3 ..... £21.99
FRONT PAGE SPORTS FOOTBALL £25.99
FRONT PAGE SPORTS FOOTBALL PRO £25.99
GARY GRIGSBYS WAR IN RUSSIA £28.99
GENESIA £23.99
GLOBAL CONQUEST ***SPECIAL*** £16.95
GLOBAL DOMINATION £25.99
GOAL £21.99
DAVID LEADBETTERS GOLF £28.99
GRAND PRIX £28.99
GRAND PRIX UNLIMITED £25.99
GRANDEST FLEET £28.99
GRANDSLAM BRIDGE £26.99
GREAT NAVAL BATTLES £25.99
GREAT NAVAL BATTLES 2 ..... £25.99
HANNIBAL £21.99
HARPOON 121 ..... £26.99
HARPOON BATTLESET £12.99
HARPOON DESIGNER £14.99
HARPOON EDITOR £14.99
HEIR TO THE THRONE £27.99
HEROS OF THE 357th £12.99
HIRED GUNS £25.99
HISTORYLINE 1914-1918 ..... £25.99
HOYLES BOOK OF GAMES 3 ..... £27.99
HUMANS-JURASSIC £12.99
HUNT FOR RED OCTOBER 2 ***SPECIAL*** £14.95
INDY CAR RACING £28.99
INTERNATIONAL OPEN GOLF CHAMP £20.99
INTERNATIONAL SPORTS CHALLENGE £25.99
INTERNATIONAL SOCCER £11.99
JACK NICHOLAS £27.99
JOHN MADDEN 2 ..... £21.99
JORDAN IN FLIGHT £27.99
JURASSIC PARK £24.99
KASPOROVS GAMBIT £29.99
KINGMAKER £24.99
LANDS OF LORE £24.99
LEMMINGS (1 & 2) £25.99
LINE IN THE SAND £24.99
LINKS - 386 PRO £29.99
BARTON CREEK £15.99
ST ANDREWS £15.99
BELFRY COURSE £15.99
PEBBLE BEACH £15.99
Other Courses Available
LOST VIKINGS £23.99
LUCKIES CASINO £26.99
MAN. UTD PREMIER LEAGUE £22.50
MASTERS OF ORION £27.99
MEDIEVAL LORDS £24.99
MERCENARIES £25.99
MERCHANT PRINCE £28.99
MICRO MACHINES £24.99
MIKE DITKA 2 ..... £26.99
MONOPOLY £23.99
MORTAL KOMBAT £26.99
NAPOLEONICS £25.99
NFL FOOTBALL £25.99
NHL HOCKEY £27.99
NICK FALDOS CHAMPIONSHIP GOLF £25.99
NICKY 2 ..... £20.99
OMAR SHARIFS BRIDGE £25.99
OREGAMO £28.99
PACIFIC STRIKE £31.99
PACIFIC STRIKE SPEECH PACK £31.99
PACIFIC WAR £25.99
PATRICIAN £24.99
PATRIOT £28.99
PERFECT GENERAL £26.99
PERFECT GENERAL 2 ..... £28.99
PGA+ £23.99
POLICE QUEST IV £25.99
POPULOUS 2 ..... £25.99
PRIVATEER £35.99
PRIVATEER MISSION DISK £15.99
PREMIER MANAGER 2 ..... £23.99
RAILROAD TYCOON DELUXE £25.99
RALLY £23.99
RAMPART £11.99
REACH FOR SKY £23.99
RULES OF ENGAGEMENT 2 ..... £29.99
RYDER CUP GOLF £20.99
SAM & MAX HIT THE ROAD £27.99
SABRE TEAM £23.99
SCRABBLE £20.45
SEAL TEAM £26.99
SENSIBLE SOCCER £21.99
SHADOW PRESIDENT £28.99
SHADOWCASTER £26.99
SIEGE £21.99
SIEGE DATA DISK £12.50
SIM CITY DELUXE £19.99
SIM CITY 2000 ..... £25.99
SIM CITY/LEMMINGS £20.99
SPOILS OF WAR ***SPECIAL*** £14.95
STAR TREK 2 JUDGEMENT RITES £24.99
STAR WARS CHESS £31.99
STARLORD £28.99
STRIKE COMMANDER £31.99
STRIKE COMMANDER SPEECH £13.99
STRIKER £20.50
STUNT ISLAND £30.50
SUBWARS 2050 ..... £27.99
SUPER LEAGUE MANAGER £19.50
SYNDICATE £28.99
SYNDICATE DATA DISK £14.99
TFX £28.99
THEME PARK ..... £TBA
TASK FORCE £28.99
TEAM YANKEE 2 ..... £22.99
THE ELDER SCROLLS £27.99
T. LA RUSSA BASEBALL 2 ..... £22.99
TRACKSUIT MANAGER £17.99
UFO £32.99
US FOOTBALL £28.99
UMS COMPILATION £31.99
UNNECESSARY ROUGHNESS £25.99
UTOPIA DOUBLE PACK £23.99
V FOR VICTORY 3 ..... £28.99
V FOR VICTORY 4 ..... £25.99
VIKINGS £23.50
WORLD CUP '94 ..... £TBA
WARLORDS 2 ..... £28.50
WAR IN THE GULF £22.50
WAYNE GRETSKY GOLD £25.99
WESTERN FRONT £23.99
WHEN TWO WORLDS WAR £24.99
WHITE DEATH ***SPECIAL*** £14.95
WINTER OLYMPICS £24.99
WOLFBANE £8.99
WORLD TENNIS CHAMPIONSHIP £23.99
WORLDS AT WAR ***SPECIAL*** £14.95
X-WING £29.99

Special Offers are while stocks last

★ ALL PRICES INCLUDE VAT
★ CREDIT CARDS ARE NOT DEBITED UNTIL DAY OF DESPATCH
★ FREE CATALOGUE PROVIDED WITH ALL ORDERS
★ FOR DETAILS OF LATEST RELEASES CALL
★ PRICES CORRECT AT TIME OF GOING TO PRESS E& OE

POSTAGE
UK = £1 PER ITEM
EEC = £3.00 PER ITEM
NON EEC = £4.00 PER ITEM

OPENING HOURS
MONDAY - FRIDAY 9AM - 7PM
SATURDAY - 9AM - 12 MIDDAY
SUNDAY - VARIABLE
ANSWERPHONE AT OTHER TIMES

TEL: 081 786 8358
FAX: 081 786 7433

IBM PC LEISURE FOR WINDOWS

CHESSMASTER 4000 TURBO £23.50
CIVILISATION £28.99
CROSSWORD DELUXE £18.99
GOLF £25.99
GRANDSLAM BRIDGE £28.99
OMAR SHARIF'S BRIDGE £26.99
SHADOWGATE £25.99
SIM CITY £29.99
SOLITAIRE JOURNEY £29.99
TAKE A BREAK - PINBALL £23.99

IBM PC LEISURE CD ROM

20th CENTURY ALMANAC £59.99
BATTLECHESS £28.99
BENEATH A STEEL SKY £32.99
BLUE FORCE £27.99
CAMPAIGN £27.99
CHANGING TIMES £99.00
CITY 2000 ..... £28.99
CONSPIRACY £29.99
CRITICAL PATH £39.99
FANTASY EMPIRES £32.99
GREAT NAVAL BATTLES £28.99
HISTORYLINE £25.99
JUTLAND £37.99
JURASSIC PARK £25.99
LANDS OF LORE £28.99
LEISURE SUIT LARRY 1-5 ..... £33.99
MAN ENOUGH £32.99
MAPS AND FACTS £27.99
MS-ART GALLERY £35.99
MOZART (WINDOWS) £38.99
NAPOLEONICS £27.99
POLICE QUEST IV £29.99
OUTPOST £33.99
REBEL ASSAULT £30.99
RISE OF ROBOTS £32.99
SHERLOCK HOLMES 3 ..... £31.99
STAR TREK 25TH ANNIVERSARY £55.99
STAR WARS CHESS £37.99
STRIKE COMMANDER £29.99
WHALES VOYAGE £24.99
WOLFPACK £21.99
WOMEN IN MOTION £12.99
WORLD ATLAS £38.99

IBM BUSINESS SOFTWARE

HOME ACCOUNTS £24.99
LOTUS 123 V3.1+ £355.00
MICROSOFT WORKS FOR WINDOWS £110.00
MONEYWISE £22.99
MONEYWISE INVOICING £24.99
MS-MONEY £34.99
PFS PUBLISHER/WORKS WIN BUNDLE £75.00
PLAYBOY DATE BOOK £28.99
TAS BOOKS £89.00
TAS BOOKS FOC EVALUATION COPY £89.00
TIMEWORKS 3 FOR WINDOWS 3.5 ..... £135.00
WORDPERFECT V6 WINDOWS £270.00
WORDPERFECT V6 DOS £270.00

IBM PC EDUCATIONAL SOFTWARE

CRYSTAL RAIN FOREST £32.99
FISHER PRICE FARM £14.99
FISHER PRICE MAIN STREET £14.99
GCSE ENGLISH £25.99
GCSE FRENCH £25.99
JOURNEY AND SAFETY £25.99
STORY BOOK WEAVER £17.99
WORLD ATLAS £32.99

IBM PC CREATIVITY SOFTWARE

ANIMATION STUDIO £65.99
CREATIVE WRITER £32.99
3D CONSTRUCTION KIT £32.99
HANNA BARBERA ANIM WORKSHOP £32.99
HELLO MUSIC £279.00

IBM PC BUDGET SOFTWARE

ASHES OF THE EMPIRE £13.99
POWERMONGER £11.49
RAILROAD TYCOON £12.49
SILENT SERVICE II £13.49
KNIGHTS OF THE SKY £13.49
POSTMAN PAT 3 ..... £6.99
PRINCE OF PERSIA £10.49
THOMAS THE TANK ENGINE £11.99
UTOPIA £9.99

BLANK MEDIA

3.5 " DSDD + LABELS (10) BLUE £4.99
3.5 " DSDD + LABELS (10) WHITE £4.99
3.5 " DSHD BULK + LABELS (10) £6.99

VISA Access MasterCard

PLEASE MAKE CHEQUES PAYABLE TO : STC

PLEASE DEBIT ACCESS / VISA/ MASTERCARD / EUROCARD / DELTA

CREDIT CARD No: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

EXPIRY DATE: ☐☐☐☐ ***SIGNATURE OF CARD HOLDER*** .....

TITLE	PRICE
+ P&P	
TOTAL	

NAME:.....

ADDRESS:.....

.....

.....

.....

.....

.....*POSTCODE:* .....

PCR O6/94

BEETHOVEN'S 5TH

Multimedia Symphony

Beethoven's 5th. It may be the ditty that launched a thousand TV commercials, but there's nothing like those opening bars to get the blood racing.

It was with some trepidation then that I hit the install option to see what sort of outrage had been perpetrated upon it in the name of multimedia.

What a surprise then to find that the CD reference disc of the symphony is everything you could possibly want, never setting one orchestral foot wrong on the whole disc.

We aren't actually told which orchestra performs the version on the CD, but that's about the only omission from the entire product. The whole piece is taken apart bar by bar, instrument by instrument, with full details of Beethoven's life and the psychology behind the work. You can get any information you want, and use it as either a reference with full score or as a learning tool about Beethoven, the 5th, or classical music in general.

The interface is stunning to look at and thoroughly well laid out. The cross referencing and layering of information screens works flawlessly throughout. The quality of information is so in depth and broad because only one classic work is studied and dissected instead of attempting the impossible all-encompassing 'classical music' CD.

And most importantly, you can quite happily put all the encyclopedic business to one side and get on with listening to the entire piece. Rest assured, the sound is of the highest standard all the way through.

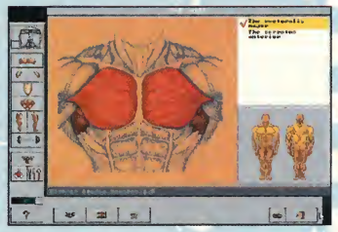
Bravo, Mindscape. bravo.

Martin Klimes

★★★★★

- **Supplier:** Mindscape
- **Contact** (0444) 246333
- **Price** £39.99

■ **Windows 3.1 on a 386SX or better, and 2MB RAM minimum. Beethoven's 5th CD runs in VGA, and you'll need a sound card and CD-ROM drive.**



Fitness Studio

Personal fitness guide

Back in my dim and distant past I became a qualified fitness instructor, and so I was interested in seeing what this package had to offer. Fitness Studio is a comprehensive guide to weight training and nutrition, and includes sections on exercise, diet and anatomy. You can design your own training routine or simply find out as much as you can on the subject.

Exercises are demonstrated via video footage of a muscular man pumping iron in his underpants. I imagine the reason for this was to show how his muscles moved during each exercise, but wouldn't it be more appropriate to show him wearing sensible training gear? Dropping a dumbell on your bare foot isn't something I'd recommend.

Ultimately, Fitness Studio is useful as a reference tool (the anatomy and injury sections are interesting and detailed) but can't replace the personal touch of a qualified instructor. You can copy the exercises shown, but you really need someone to observe your technique and tell you where you're going wrong. More importantly, an instructor would have a better idea of what diet and exercise plans suit you best.

Unfortunately, the interface is less than intuitive — you really have to read the manual before you can start designing a fitness routine for yourself — so why not buy a good book on the subject instead? At least you can read it in bed, or more importantly, take it to the gym with you.

Cal Jones

★★

- **Supplier:** Software Partners
- **Contact** (0480) 497622
- **Price** £29.99

■ **Minimum requirements for Fitness Studio are a 286PC , VGA, MS-DOS 3.3, mouse and 10MB hard disk space.**

Fine Artist

Educational drawing/painting package

Young children like to draw. It's simple. Using computers isn't, so getting young children to draw on computers was never going to be an easy task. Enter Microsoft and Fine Artist, the other half of a pair of products with Creative Writer.

The idea is to teach kids a few basics of drawing and painting in such a fun and natural way that they don't realise they're learning.

In the end it's bound to be a bit of learning on creativity and a bit of learning about computers, but Microsoft does manage to put together an almost imperceptible interface. How? By introducing McZee, the cartoon tour-guide through Imaginopolis.

Okay, so it'spretty American, but it certainly works. McZee, and his cartoon assistant Maggie, help when wanted, offer advice without a single patronising moment, and sit in the background when not wanted or needed.

It's a tribute to the whole concept that Microsoft Fine Artist is amazing fun for adults too, making the time you spend with your children at the PC not drag in the slightest.

The colours are bright, the icon and cursors are full of bounce and fun, and there's a genuine personality to the overall finish. That is the most major achievement needed in this sort of software, and Microsoft have pretty well hit the nail on the head.

From the packaging and manuals, through installation and into the programme itself, McZee's there with a smile and a few words to smooth over even the dullest setup moments.

If you want to introduce your children to a few basic art skills in a hugely fun manner, and perhaps give them a little computer literacy to boot, then Microsoft's Fine Artist is spot on.

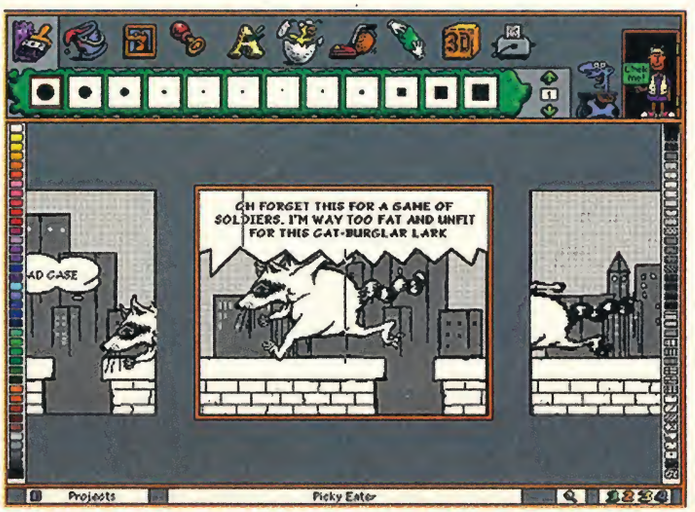
Take a trip to Imaginopolis today.

Martin Klimes

★★★★★

- **Supplier:** Microsoft
- **Contact** (0734) 271000
- **Price** £29.99

■ **386 PC, 4Mb RAM, 11MB of hard disk, VGA, mouse and Win 3.1 are a must. A sound card and printer add substantially to the whole thing.**



Putt-Putt Goes to the Moon

Educational game

The Putt-Putt series of games is aimed at young children, specifically at non-readers, which puts the age limit at 7 or 8 at most. Putt-Putt is a car — a very amiable one who talks and is talked to and it is this that means written instructions are just not necessary.

The storyline is simple enough — Putt-Putt and his dog Pep visit the Fireworks Factory where they are being shown around. There's a lever clearly marked "Caution — Do not touch" but, as you might expect given this amount of warning, it gets pressed and launches a rocket to the moon. Having landed on the moon Putt-Putt is helped out by Rover, a helpful lunar terrain vehicle. Together they set out to buy a rocket from a two-headed alien and then collect the parts needed to rebuild it.

To complete the quest Putt-Putt and Rover have to find and obtain various items by solving problems and talking to other characters in the game how have clues and tips for them. Apart from the main action there is a great deal of extra goodies in every screen. Clicking with the mouse on objects reveals amusing animations. There is also a game with a game — an arcade game in which you control Fatty Bear — another Humongous character — as he flies his plane with the object of scoring points. This game has up to 50 levels and so is rather more than a filler. There are some non-computer fillers in the package — a colouring book, stickers and a novelty pen.

The characters in the game will certainly appeal to young players. Our testers found the game very playable and at the same time it had enough educational content in terms of problem solving for it to be welcomed by their parents.

Sue James

★★★

- **Supplier:** Humongous Entertainment
- **Contact** (0753) 549442
- **Price** £34.99

Needs a 12MHz 286, 640k and VGA. A 386 PC would be a better recommended minimum. Ad Lib/Sound Blaster sound support.

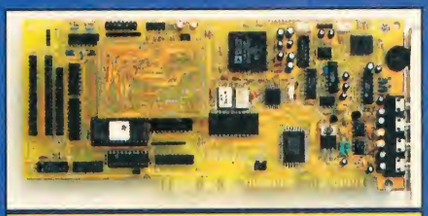
PC REVIEW

TRIED & TESTED

Some software gets deleted from the hard disk the minute a review is written — some hardware we wish we'd never seen. But there are products we see every month that we wish we could keep.

It is these products — those that we've worked with and found enjoyable, reliable and above all genuinely useful above and beyond the call of duty, that rate an appearance on this page. Any of the product which feature here we recommend as worthy of inclusion in any shortlist of PC products.

Personal Computer
Dan for Windows/33 486
Dan Technology, £1,570
Well behaved, impeccably finished — a thoroughbred.



Sound card
Sound FX Classic 3000
Bluepoint, £199
Stunning combination of sound quality, features and compatibility.

CD-ROM drive
Mitsumi FX001D
Mitsumi, £169
Competitive performer with a ridiculously low street price.

Hardware
Micrograph Tabby
Micrograph, £53
Never thought we'd see a good graphics tablet this cheap.

Software
Fine Artist
Microsoft, £29.99
Entertaining, informative and superbly presented.

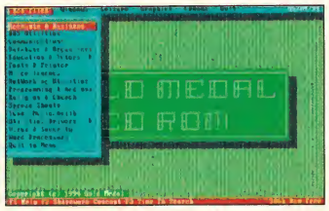
Featured last month: Gateway 2000 486/33SX, Fauve Matisse, Microsoft Art Gallery, Media Vision Double Fusion LX, Orchid GameWave.

Shareware reviews

This month, Alan Clark tries out a few edutainment titles, vainly attempts to organise his affairs with a handy utility for Windows and checks out a new monthly update of shareware on CD-ROM.

PRODUCTS

Gold Medal 1 CD-ROM



Exclusively distributed by PD Selections, this CD is probably one of the most up-to-date shareware compilations available. Updated every month, Gold Medal contains the very latest in DOS and Windows shareware: everything from accounts and business software to religious programs, programming utilities and True Type fonts.

A simple, easy-to-use menu system allows you to browse through the various file listings and then install whichever software you fancy.

This first issue also contains some of the latest shareware games including the smash hit gore-slug-fest Doom, and the follow-up to the excellent Jill of the Jungle, Xargon 1:Beyond Reality.

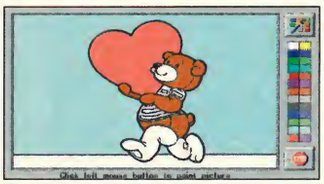
So if you want to keep up with the latest in the world of CD shareware, not only read this article each month, but subscribe to this CD.

Available from PD Selections
(0474) 325802

Price £19.95 for one, or £15.95 a month for each CD

PC REVIEW RATING 8

Crayon Box



Not only is this jolly good fun for children (actually, I thoroughly enjoyed it myself), it's also a God-send for parents; yes, the children can paint pretty pictures, and there's no mess to clear up afterwards. No dirty clothes, hands and faces, no washing down the paint work...

Anyway, Crayon Box is split into different sections and includes simple mathematics and counting as well as easy-to-use drawing and painting sections. There's also an American geography quiz too, for some reason.

On the whole, the package is good fun to play with. For the maths and counting sections, different skill levels are available (for when your child starts memorising the answers) and everything is just so simple to use; basic mouse operation and entering numbers from the keyboard. On screen instructions are big and bold, easily readable by young children.

Available from After Hours BBS
(0785) 228214

Price £12 and includes 10 more drawings to colour

PC REVIEW RATING 7

Europe

Europe is actually the first in an 'Around the World' series of geographical quizzes covering such topics as countries, capital cities, mountains and rivers and even industries. All you have to do is click on the right country within the time limit; simple. At the end the computer displays the right answers and presents you with a score. From here you can re-do the particular quiz or move on to another.

Ideal for geography students as a learning aid, or just for showing off your knowledge of European countries.

Available from Advantage PD
(0242) 224340

Price $12

PC REVIEW RATING 6

Magic Desk

Magic Desk is a graphical front-end for all you DOS users that allows you to run applications by simply selecting the relevant icons.

Setting up the program is simple, even if you don't know anything about DOS itself. Pages make up the various menus and on to these pages are placed the various applications, represented as icons. If you can't remember the exact location and file name of your program, you can browse through a file listing until you find it, and all the info you need is then entered into Magic Desk.

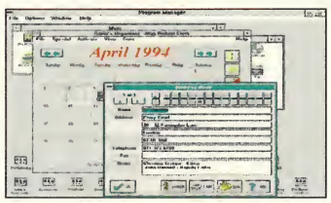
The icons for the programs are either added from a list of samples, or you can create your own with a built-in icon editor; by following simple instructions you can even use standard Windows icons. Pictures can be added as backgrounds to your menus to liven them up too.

Available from PD Selections
(0474) 325802

Price $35 (includes $6 shipping)

PC REVIEW RATING 7

Gorin's Organiser for Windows



For all of you wishing to organise yourselves, Gorin's Organiser is just the thing. It contains a daily appointment calender, yearly planner, note and address books; everything you need to become, well, organised really.

Displaying a month at a time you can easily keep up with appointments or keep track of those all important business clients.

Available from Advantage PD
(0242) 224340

Price $42.50 (includes $17.50 shipping)

PC REVIEW RATING 7

Advanced English Computer Tutorial

Ideal for students in their last few years at school or college, or for people wishing to brush up on their English skills, the AECT is a good learning aid.

Split into four categories, the tutorial consists of a variety of explanations and examples, with each category containing a range of questions to answer.

The AECT is really rather interesting to work, with the registered version covering even more topics.

Available from PD Selections
(0474) 325802

Price £34.95

PC REVIEW RATING 6

Phantom

Not as graphically inspiring as After Dark or Opus & Bill, nevertheless Phantom is a well presented and varied DOS screen-saver.

As with the two Windows savers mentioned, Phantom has a list of different modules available for saving your screen. Some of the more interesting ones include a 'Toxic' variation of the After Dark aquarium with barrels of nuclear waste sitting on the sea bed and a variety of mutant fish.

But my favourite has to be Windshield; you can probably imagine the sort of thing if you've ever been driving along and all of a sudden a kamikaze wasp (or something) has spread itself over the windscreen and you've had to drive for miles with your wipers going to clean the mess off!

Available from PD Selections
(0474) 325802

Price $38.50 (incl $3 shipping)

PC REVIEW RATING 6

ORCHARD SOFTWARE

'PICK OF THE BEST'

TELEPHONE: 0279 501930 - MONDAY TO FRIDAY 9AM-7PM, SATURDAY/SUNDAY 10AM-4PM

SEND CHEQUES/P.O'S MADE PAYABLE TO ORCHARD SOFTWARE TO:

13 KINGSMEAD ROAD, BISHOPS STORTFORD, HERTS CM23 2AG

LOOK AT THESE PRICES!!!!!!

TOP TEN PC GAMES		TOP TEN CD-ROM	
1) Sim City 2000	£25.99	1) Rebel Assault	£31.99
2) Alone in the Dark 2	£31.99	2) Gabriel Knight	£30.99
3) Starlord	£28.99	3) Iron Helix	£26.99
4) Frontier – Elite 2	£25.99	4) Day of the Tentacle	£29.99
5) TFX	£28.99	5) TFX	£31.99
6) Microsoft Flight Sim v.5	£29.99	6) The Lawnmower Man	£34.99
7) Links 386 Pro	£29.99	7) The Journeyman Project	£26.99
8) Sam & Max – Hit the Road	£27.99	8) Comanche: Max Overkill	£30.99
9) Gabriel Knight	£25.99	9) 7th Guest	£35.99
10) X-Wing	£28.99	10) Microcosm	£35.99

All Prices include VAT. Please add £1 per item P&P UK Only. EEC £3 per item. Non EEC £4.50 per item.

RING 0279 501930 FOR QUOTES FOR ALL OTHER TITLES NOT LISTED ABOVE. CALL FOR FREE PRICELIST.

ALL ITEMS SUBJECT TO AVAILABILITY. PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. E & OE. PLEASE STATE FORMAT REQUIRED WHEN ORDERING.

RECRUITMENT

NEGOTIATOR/MANAGER REQUIRED

PREMIUM RATE TELEPHONE BUSINESS

SALARY @ £10,000 P/A

PLEASE CONTACT: 091 229 0231

BOX CLEVER...

WHY PAY MORE WHEN THE BEST COSTS LESS!

RACING BOXFORM £24.95... "I was impressed by all the programs. The overall winner though has to be RACING BOXFORM... well worth backing ".... Practical PC.. " has come through independent tests with flying colours " ODDS ON . " Remarkable Results"...CSUG And from a customer

"I have tried every racing program on the market and RACING BOXFORM is the easiest to use; good as any an better than most"

RACING TOOL KIT £49.95... Racing Boxform PLUS programs to keep your own records PLUS produce form and time ratings PLUS work out almost any bet PLUS betting analysis indicating the best races for winner finding PLUS a book "HOW TO WIN AT RACING"

FOOTBALL BOXFORM £24.95... Written by a mathematician who was for years a member of Littlewoods permutation advisory service. He can't guarantee you'll become a millionaire (if he could he'd be one himself!)but he can GREATLY IMPROVE YOUR CHANCES OF WINNING ON THE POOLS OR THE FIXED ODDS. Covers league and non-league. Includes FREE PROGRAM for Australian pools.

FOOTBALL TOOL KIT £49.95... Football Boxform PLUS details and checking of nearly 800 treble chance entries PLUS " as thorough a statistical analysis on coupon numbers as the punter can hope for" PLUS Dividend Forecaster...PLUS fixed odds calculator.

PLEASE MAKE CHEQUES OR POSTAL ORDERS PAYABLE TO BOXFORM

BOXFORM

(PCR JUNE) 65 Allans Meadow, Neston South Wirral, L64 9SQ Tel: 051 336 2668

Access VISA

MEGABYTES

COMPUTER SYSTEMS

22,Central Road Worcester Park Surrey KT4 8HZ Tel 081-335- 4224 Fax: 081-715-0914

Soundblaster Pro £60.00

8 Bit Stereo sound card
Panasonic Cd-Rom I/F
Value pack With Free Software

Soundblaster Pro 16 £75.00

Value Pack
16 Bit Stereo Sound card
Panasonic Cd- Rom I/F

Soundblaster Pro 16 ASP£169.00

Value Pack
16 Bit Stereo Sound card
Panasonic Cd- Rom I/F

CD -Rom Software

Ms Encarta '94	£68.00
Multimedia Beethoven	£42.00
MS Art Gallery	£39.00
7th Guest	£20.00
Return To Zork	£20.00
Iron Helix	£20.00
Tornado	£18.00
Megaracc	£20.00
Shareware Titles From	£10.00

We Also supply Motherboards, Hard Drives, Monitors, Cases, Memory Etc i.e.: 250Mb IDE £165.00 356Mb IDE £199.00

Panasonic 562 CD-Rom £130.00

Double speed 300Kbs
Kodak Multi - Session
Complete with Cables and Drivers

Panasonic 562 Cd-Rom + Soundblaster Pro £189.00

Complete with cables and drivers
Includes Free Sampler Cd

Panasonic 562 Cd - Rom + Soundblaster Pro 16 £205.00

Complete with cables and drivers
Includes Free sampler Cd

All prices exclude VAT. Shop Opening Hours 9am-6pm Mon-Sat. Personal Callers Welcome

Overnight Delivery on Hardware £6.95

OMNIEYE SYSTEMS

56 Prince of Wales Rd., Caister-on-Sea,
Great Yarmouth. NR30 5UB. Telephone 0493-720219

for prices that are out of this world!

486 DX/SX*

4Mb RAM

Including:

0.28 SVGA Monitor
3.5" Floppy Drive
2x Serial Ports
1x Parallel Port
1x Games Port
102 Key Keyboard
Mouse, Desktop
or
Mini Tower Case

£535

* choose your own CPU & Hard Disk from the list, just add to this price.

C P U's

486SX25	£62
486DX33	£193
486DX50	£302
486DX2-50	£231
486DX2-66	£317
CPU cooling fan	£9

Hard Drives

130 Mb	£121
170 Mb	£141
210 Mb	£150
250 Mb	£166
341 Mb	£195
420 Mb	£250

THESE PRICES RELATE only when you purchase a COMPLETE SYSTEM. Phone us now For a full price list!

Monitors

14 inch Low Rad	£161
15 inch Low Rad Non - Interlaced	£255

Also Available:

CD ROMS - CD TITLES
FAX MODEMS - MONITORS
UPGRADES - PRINTERS
VESA BOARDS - SOFTWARE

MEMORY

1Mb RAM	£32
4Mb RAM	£115

Phone for a complete and up to date price list

DELIVERY: A charge of £10 as an insured courier service is used to guarantee safe delivery REPAIRS: A full component level repair service is available for all PC related products.

Up to 5 Year On-Site Maintenance Warranty Policies.

Prices on application

ALL PRICES EX VAT Prices subject to change without notice. E & OE.

Please check suitability with the manufacturers before ordering. Goods are NOT offered on a trial basis. Orders are subjected to our standard conditions of sale - available on request. E&OE. Subject to availability, dispatch is normally effected within 2 days from receipt of cleared payment. PLEASE ALLOW 5 WORKING DAYS FOR CHEQUE CLEARANCE.

WIN! The best and biggest noise to hit the PC in years!

First prize: the Sound FX Classic 3000
Second prize: the Sound FX 16
Third prize: the Sound FX 8

It may be a market where PC owners are already spoilt for choice, but Bluepoint's new Sound FX Classic is the most impressive high-end sound card we've seen in a long, long time. It's got top quality wavetable sound, excellent FM games compatibility, good software, plus all the features any musician could ever need on a sound card *and* three CD-ROM interfaces to boot.

You can find out all the gory details in the review on pages 108 and 109, but take it from us — the SFXC3000 is a stunning addition to any PC. And here's your chance to win one of your very own in this exclusive PC Review competition.

If you don't win the major prize, second and third prize winners won't walk away disappointed either with Bluepoint 16-bit and 8-bit FM cards respectively, both cards that will immediately bring a musical lift to your PC.

All of the cards require a free 16-bit slot inside your PC, plus speakers. Call Blue-Point on (0908) 277007 for further information about the Sound Fx range

How to enter

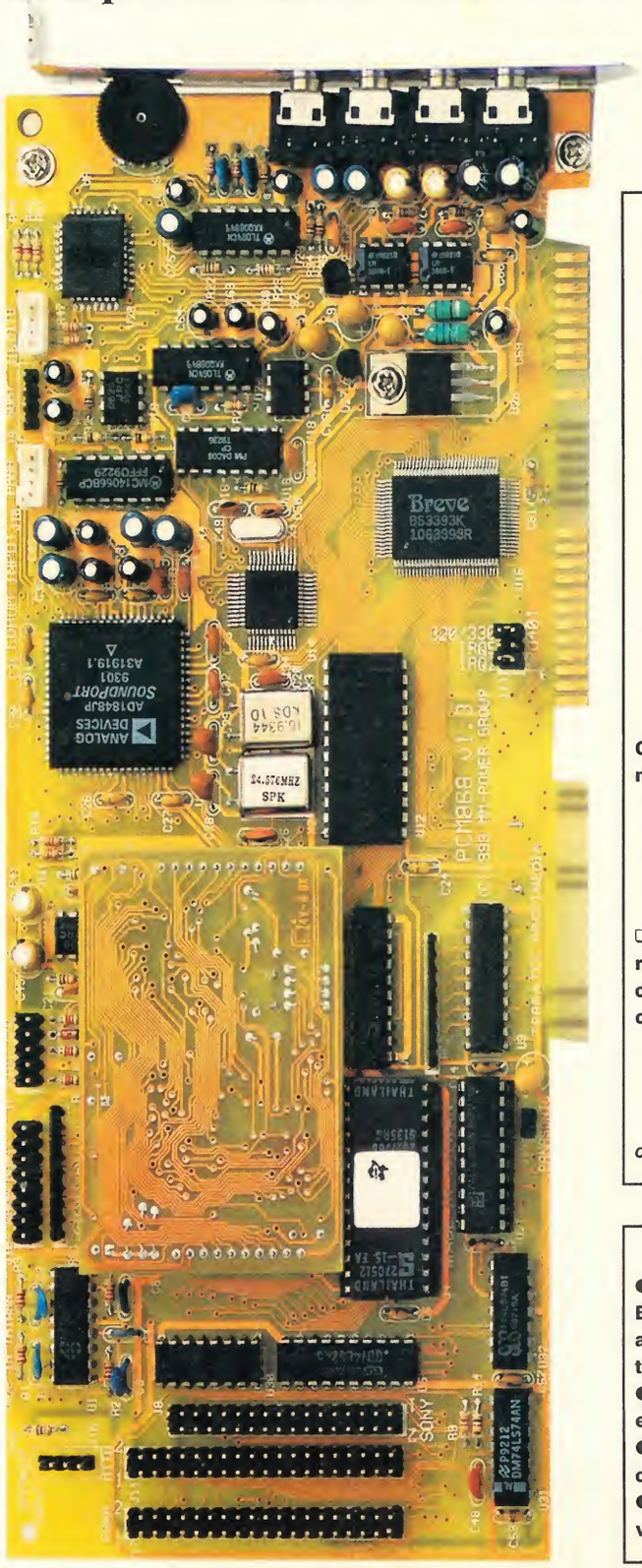
All you have to do to be in with a chance of winning is to answer the following three simple questions correctly.

1: The SFX Classic 3000 uses
a) Wavetable
b) FM synthesis
c) both

2: GM stands for
a) General MIDI
b) General Motors
c) Grand Marnier

3: "Gloria Estefan used to sing with the Miami ... Machine?"
Fill in the missing word.

Send your answers on the coupon opposite, or a postcard or photocopy to:
Sound FX competition
PC Review
Priory Court
30-32 Farringdon Lane
London EC1R 3AU



SOUND FX

PC Review Sound FX competition

Name.....

.....

Address.....

.....

.....

.....

Answers

1: .....

.....

2: .....

.....

3: .....

.....

Once you have filled in this coupon, make sure you send it to:
PC Review Sound FX compo
Priory Court
30-32 Farringdon Lane
London EC1R 3AU

❑ **Tick this box if you don't want to receive further information from companies associated with this competition.**

Closing date June 15, 1994 PC Review Issue 32

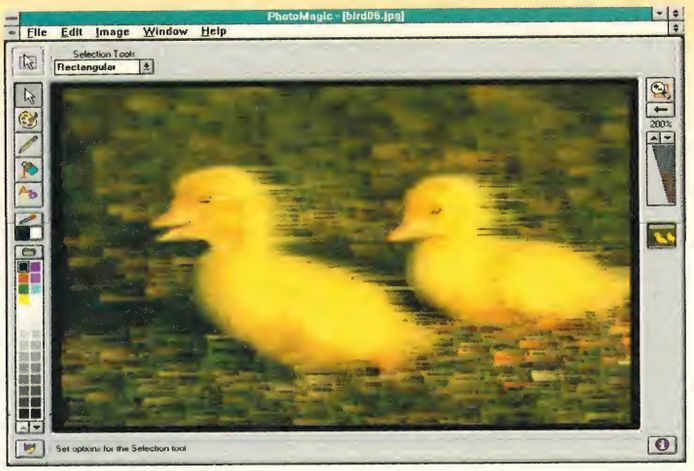
RULES

- **Employees of Emap Images, Bluepoint and their families and associates are not eligible to enter this competition.**
- **No multiple entries: only one entry per person, please.**
- **No entries received after the closing date will be accepted.**
- **The editors decision is incontrovertibly final. As always.**

COMPETITION

Graphics workshop

Alan Clark introduces a new series on using painting and drawing packages on your PC. Over the next few months, you'll find out which are the best art programs to use for different purposes, how to create different effects with your software and how to get the most out of the best — and affordable — packages around. This month, we take a look at some basic graphics techniques, how they work and some of the packages which use them.

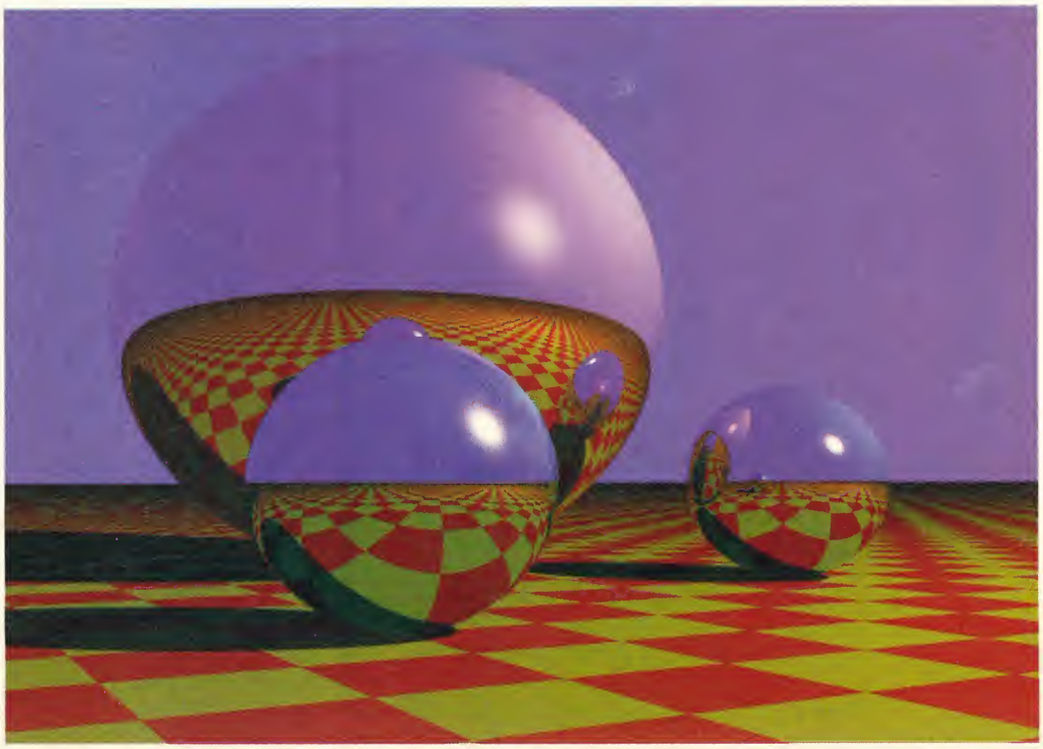


Blimey, those ducks are moving rather fast, thanks to modern software.

Most people have come across a graphics package in some form or another, even if it's just a quick scrawl out of curiosity with PaintBrush that comes with Windows.

But within the area of computer graphics there's more to it than just picking up the mouse, drawing a collection of lines and coloured shapes and calling it art. Using the right tool for the right job is very important. While it may be very easy to use, Deluxe Paint II isn't the most appropriate program if you're an architect, but on the other hand, there's no point spending £3,500 on software if you're just going to doodle for pleasure all day.

Reflection and shadows – the essence of ray tracing.



Painting vs drawing packages

The difference between a painting program and a drawing program seems obvious from the names alone, but on the computer they tend to use different techniques to create artwork.

Drawing packages, such as Corel Draw or Designer, are vector-based packages. That is, by using specific tools from within the software, each object you draw – a circle, rectangle, square or whatever – is stored as a series of points which define the shape and angles of the object. These objects can then be picked up and moved around the drawing, enlarged, rotated, scaled and in many other ways manipulated. Your drawing, or design, is then made up of a variety of these individual objects.

This sort of package is ideal for creating such things as logos, technical illustrations, signs and other similar designs, but they can also be quite complicated, overwhelming, and even quite expensive too.

With paint packages such as Paintbrush, or Deluxe Paint II Enhanced, everything is drawn pixel

by pixel and normally freehand. To make things easier and more user friendly, however, tools are usually available for drawing a variety of shapes, but once drawn these are then treated as any other pixels. Unlike a Drawing package where everything is treated as individual objects, within a Paint package all the squares and circles and lines are treated as one.

To sum it up then, a Paint package is pretty much the same sort of thing as taking some pots of paint, a brush and some paper – without having to clean the brush afterwards.

Paint packages are ideal if you want to create a backdrop for Windows or simply for creating computer art. Generally, Paint packages aren't as complicated as Drawing packages and are normally considerably cheaper.

The standard of drawing or painting you create is very much determined by how good your artistic talents are and how comfortable you are with a mouse: while offering a range of tools to help you in your work, graphics packages can't actually do the drawing for you. However, if you do find drawing with a mouse on a vertical screen unnatural, you can invest in a graphic tablet, a flat horizontal 'screen' on which you draw with a 'stylus.'

Computer aided design

CAD is an acronym for Computer Aided Design, and is a tool for technical drawing on the computer, for objects which need millimetre-precise scaling with complex components – anything from buildings to car engine parts.

While you create your drawings in flat 2D in CAD packages, the more advanced software allows you to transform these designs into 3D or shaded models of the final structure.

Image editing software is used to add subtle effects to scanned images.

3D modelling

This sort of software is used for creating the graphics in the majority of 3D games, flight simulators, for example. An even better example has to be 7th Guest with all its beautifully rendered rooms and objects.

Modelling software enables you to create 3D objects and view them from any angle. These objects are made up of faces, normally triangles (think of the polygons in Alone in the Dark for example), and each face can be manipulated to create weird and wonderful models. To add more realism to your objects, you can add textures and light sources.

Within 3D modelling there are basically two different types; surface and solid modelling: hollow versus filled, solid objects. The surface modelling technique generally creates more realistic models when working with glass or other transparent materials.

As far as available software is concerned there isn't really a great deal. But what there is, is normally quite expensive. The most widely known package is Autodesk's 3D Studio. This is a very powerful surface modelling and animation package. As well as creating the graphics for a lot of top-notch games, 3D Studio is also used for creating 3D effects for TV adverts, music videos, logos and a whole host of other things.

Ray tracing

Ray tracing could be considered as the next step on from 3D modelling. It's a way of calculating individual light rays within a 3D scene; the most common example has to be the shiny ball on a checkerboard landscape, lit by a single light source. Because of the glossy properties of the ball, the checkerboard is reflected within the ball's surface, and the light shining on to the ball creates a shadow on the ground.

Now all this can be created from within 3D modelling software, but the ray tracing technique is a lot more realistic. Unfortunately it also involves a lot more number crunching and calculation, and so takes longer to produce.

Sadly, actual ray tracing software is pretty hard to come by and there really aren't many commercial titles around. I've said that 3D Studio is a 3D modelling package, but it also has the ability to perform ray tracing. Another package that will ray trace 3D objects is 3D Design Plus v2, but there are also relatively inexpensive shareware titles which will do the job just fine.

Persistence Of Vision and Vivid are the two most well known of these packages, and with a little practice the things you can produce with these inexpensive titles is amazing.

As this sample proves, you can create some stunning images with Autodesk's 3D Studio.

Photo editing

This software is used for editing photographs; changing the colour balance, touching up blemishes on faces, merging two photos to create a montage or changing the colour of the sky to create a surreal effect.

Within these packages you'll find a range of tools for altering photographs and also a collection of drawing tools for adding further shapes. A facility for adding text is also often available.

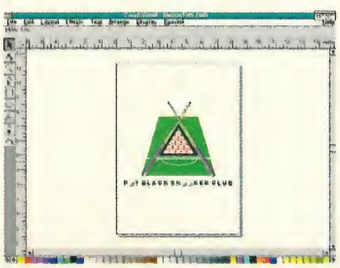
This sort of software is normally used within the publishing industry for touching up photographs before going to press, but they're also great fun to play with at home. And with the addition of Photo CDs you don't have to worry about scanning the pictures in anymore.

Morphing

You've all seen morphing in the film Terminator 2. Every time the T1000 changed into another shape, or melted into a pool of silver, that was an example of morphing.

The idea is actually quite simple: here's one image, here's another, and by using complicated algorithms and other maths functions, the software will generate a user-definable series of frames and gradually transform one image onto another.

There's quite a range of titles available from expensive professional packages to affordable packages for home users too, such as Win Images, Morph and the shareware programs R-Morph and D-Morph.



A vector-based draw package is ideal for creating company logos.

SUPPLIERS

Corel Draw 4
Price: £395
Contact: Frontline Distribution (0256) 463344

Persistence of Vision
Price: Shareware
Contact: After Hours (0785) 228214

Vivid
Price: Shareware
Contact: After Hours (0785) 228214

Deluxe Paint 2 Enhanced
Price: £116.33
Contact: Electronic Arts (0753) 549442

3D Studio
Price: £2,643
Contact: Autodesk, (0483) 303322

Designer 4
Price: £495
Contact: MicroGrafx (0483) 747526

R-Morph
Price: Shareware
Contact: PCIUG (0732) 771512

Morph
Price: £139.83
Contact: Softline (081) 642 2255

PhotoMorph
Price: £116.33
Contact: LTS (0836) 792617

Help!

Don't Panic –

check the PC Review technical reference guide (then panic)

Nobody ever said PCs were easy to use. If you're going to load software on to the machine, then sooner or later, you're going to have to get to grips with the DOS prompt and some simple file commands. The trouble really begins when something goes wrong and your programs won't load, or the PC doesn't behave in the way it should. However, the days of worrying about the state of your hard disk, or wading through the DOS manual could be over. PC Review's technical help pages are designed to pinpoint the most common problems encountered with your PC. Read on.

If you are new to PCs, or just plain bewildered by talk of boot disks, device drivers and upper memory blocks, then these pages have been designed with you in mind.

In this month's Technical Help section, we cover editing Config.sys and Autoexec.bat files, basic disk and memory problems, common error messages, and making a boot disk.

There's also a glossary of PC jargon, which should help to explain terms not only in these pages, but those which you may come across in hardware and program manuals.

FORMATTING YOUR DISKS

Blank disks that you buy from the shops will almost always be unformatted: that is, they are truly blank. In order to use them on a PC, you will need to format them. Formatting imposes a structure on the disk, marking the disk magnetically into areas called tracks and sectors, which makes it easier for the operating system to keep track of files when you store them on the disk. If you format your blank 3.5" disk in an Apple Macintosh, it will be formatted for use only in an Apple Mac; if you format it in a PC, the tracks and sectors will be marked specifically for use in a PC.

Where formatting gets a bit scary is that, a) you can reformat disks with data already on them, and the process of formatting also erases any information already on the disk, and, b) you can format hard disks as well as floppy disks.

We defy anyone who has used a PC for any length of time to claim that they have never formatted the wrong disk by accident. However, while it can be agonisingly easy to reformat the wrong floppy disk, current versions of DOS will warn you in capital letters if you try to format the hard disk by mistake.

If you do accidentally wipe out the wrong data with the Format command, and you have version 5 or 6 of DOS, try running the Unformat program immediately (type Unformat at the C:\DOS prompt). Failing that, you need a program such as Norton or PC Tools to try to recover your data.

How to format a high density (1.44Mb) floppy disk in a high density drive A:

1) Put the disk you want to format into your floppy disk drive A:.
2) At the C:\ prompt, type FORMAT A: /F1.44 (don't hit Enter just yet)
3) Check that it really does say A: in the line you've typed.
4) Press Enter.
5) You will be prompted to insert the correct disk into drive A:. This you have already done, but you do have a chance to double-check that it's the right one now.
6) Press Enter to confirm the format.

The formatting process should now start. Note that if the disk is write-protected, you will get a message saying "Write-protect error" (write-protected disks cannot be (re)formatted). You can simply take the disk out, move the write-protect notch down, re-insert it and start again. First, however, you should try to remember why you write-protected it in the first place.

The PC should make a regular ticking noise as it marks the tracks and sectors. However, if this gives way to a distinct grinding sound, then the format program has found some bad sectors – areas on the disk that are damaged. Don't worry. The format program will mark these sectors as 'bad' and henceforth, your programs will not attempt to write data to these areas, although you will lose the space that the bad sectors take up. Your 1.44Mb disk will only hold 1.43Mb of data if there is around 10K in bad sectors.

Once complete, you will be prompted to enter a 'label', or name for the disk, and whether or not you wish to format another disk of the same type. Hit Y for yes and have the second disk handy, or N for no, and exit the format program.

If you want to format a low density (720K, or 'double density') in a high density drive, you should specify it at the C:\ prompt:

FORMAT A: F:/720

Don't try to format disks at the wrong density. As for formatting hard disks, DON'T, unless you aboslutely have to.

HAVE I CAUGHT SOMETHING NASTY?

Without wishing to sound blasé on the subject, viruses are not nearly as common as people think they are. With reasonable care, you should go through life without ever acquiring a computer virus, although a lot of machine errors do superficially look like viruses to the uninitiated.

A virus is simply a program which will copy itself from one disk to another (from a floppy to your hard disk, for example) without your consent. Most commonly, it has been

designed to alter the contents of other files, with mischievous or even malicious intent.

There are two main types of virus: firstly, there are those which copy themselves to your PC's bootstrap loader, a small program in the space on your hard disk called the boot sector. The bootstrap is the program which calls up your operating system when you switch the PC on. Floppy disks also have a boot sector. Secondly, file viruses attach themselves to 'executable' files on the PC, ie, files with names ending in .EXE, or .COM. These viruses are activated when you run the infected program (not simply by copying the infected file over, so

it's possible that a file virus could lie dormant in your hard disk for some time before you get around to running the file containing it).

So, your machine cannot suddenly develop a virus all on its own. You need to have actually copied the file which contains the virus to the machine at some stage, albeit unwittingly. The obvious external sources for a virus to be transmitted to your hard disk are from an infected floppy disk, from an infected file on a bulletin board (rare these days, since any half-decent bulletin board will run its own virus checks), or over a network.

What viruses actually do varies. Early viruses were often more mischievous than malevolent: a message might appear on-screen ("Your PC is now stoned" was the on-screen notification for the very old Stoned virus), or the display would go wonky. Unfortunately, the majority will try to damage the system in some way, deleting files, or reformatting part of the hard disk, or overwriting sectors with garbage.

Prevention is better than cure: how to protect yourself

- Write-protect all program disks so that no files can be copied on to them. On a 3.5" floppy, you write-protect the disk by moving the notch at the top left hand corner on the back of the disk upwards. You should now see a square hole where the notch was previously.
- Keep all important data backed up, so that in the event of an attack, you do not lose everything beyond retrieval.
- Make a system disk (see elsewhere on these pages), ideally immediately after installing the operating system on a new PC. Write-protect and label it, so that in the event of an attack, you have a way to 'clean-boot' your PC.
- Exercise reasonable caution over the floppy disks you use in the PC. There's no evidence that games software is more likely to be infected than business applications, but every reason to suspect that pirated software is more likely to carry viruses than bona fide commercial disks ('real' disk duplication companies have their own virus checkers, and pirated software is more likely to have travelled about from machine to machine).
- Buy a virus protection program — see the Useful Products panel for details of some of the packages available. There are programs w hich will just scan for viruses without being able to repair them, but you are better off with a more expensive package which will also repair and which is updated regularly to take account of new viruses, particularly so-called stealth viruses which are designed to evade detection. Note also that DOS 6 includes a virus scanner and repair package. checker. Use it!

There is probably also a variant of Murphy's Law in operation which states that if you spend a lot of money in an anti- virus program, it will never detect a virus, but if you decide not to buy one, then sooner or later you'll use an infected disk.

If you think you've picked up a virus, or your scanner has announced a virus alert, here's what to do:

- Stop whatever you're doing.
- Switch off the PC.
- Put in a write-protected boot disk – one that you know is clean, see above – in your floppy disk drive.
- Switch the PC back on.
- Run your anti-virus program to repair the damage.
- Now take all your floppy disk drives and run each one through the virus checker.

NB When you clean up after a virus attack, take care to scan *all* your floppy disks. Any disks that you have used while the virus has been dormant in the machine may still have an infected file on them — and may not be the original source of the virus. After cleaning up the hard disk, you will only re-introduce the virus if you then use an infected floppy disk.

- Don't worry unduly. Viruses are not lurking around every corner. Strange, inexplicable things happening on your PC are far more likely to be the result of hardware or software faults, poor configuration, or loose connections. Viruses *are* rare.

For example, all PC Review's machines are equipped with memory-resident virus checkers which are upgraded monthly. We use disks from all sorts of places in the course of each day, and in two and a half years, we've only had one virus scare.

- Finally, magazine cover disks are generally safe to use. Any magazine worth its salt checks, rechecks and then checks again for viruses on the cover disk at each stage of production — PC Review certainly does.

GLOSSARY

8-bit: a bus (see below) or processor which can transfer and process data eight bits at a time. See bits, below.

16-bit: a bus (see below) or processor which can transfer data 16 bits at a time. A 16/32-bit processor, such as the 386SX takes data in and spurts it out 16 bits at a time, but internally processes it 32 bits at a time.

32-bit: a bus (see below) or processor which can transfer and process data 32 bits at a time.

3DO: a digital CD-based console system developed by The 3DO Company, intended to set a standard for interactive entertainment on CD (as per CD-i). The name is derived from a rather excruciating extension of audio, video.

Analogue: a device capable of representation by electrical voltages rather than electrical signals.

Ansi.sys: this DOS file can be loaded as a device in Config.sys and then used to present very basic coloured block displays on-screen.

ASCII: (*pron Ass-key*) stands for American Standard Code for Information Interchange. An ASCII file is a plain text file which contains no codes specific to the software the file was created with.

Autoexec.bat: a file you create on your PC which is acted upon every time you switch on the machine and which tailors the PC's configuration.

BASIC: stands for Beginners' All-purpose Symbolic Instruction Code. A programming language.

Batch file: a file with the extension .BAT consists of a series of other DOS commands, so that you can implement a series of commands in one go. A very simple batch file might consist of the following:

```
CD\
MOUSE\MOUSE
CD THARG
THARG
```

which would move you into the root directory, load up the mouse driver, move to the Tharg directory and start up the program Tharg. If you named this file GO.BAT, you would only need type GO to load up Tharg.

Baud rate: speed of transfer by a modem as measured in bits per second. See modem.

BBS: stands for Bulletin Board System. A database of programs, demos, and mail-box areas which you can phone using a modem. Facilities vary, but normally include access to the programs, the option to upload your own data and to 'chat' on-line to other users.

Bit: the smallest unit of computer data, equal to either of the digits 0 or 1 (bit actually stands for 'binary digit').

Bitmap: a way of defining a graphics image so that one bit equals one pixel.

Booting: booting up the PC is the same as switching it on and loading up the start-up programs.

Buffer: an area of memory used for temporary storage. The buffers command in the Config.sys files specifies how much RAM MS-DOS reserves for storing bits of data that can be called upon more quickly than accessing the hard disk. Printers normally contain a memory buffer into which the file to be printed is transferred, leaving the PC free for work on other applications.

Bus: the software, hardware and wiring that enables the different parts of your PC to communicate with each other. The expansion bus connects the PC to external devices.

Byte: a unit of data equal to eight bits; more understandably, one character in ASCII (plain text) takes up one byte of space.

Cache: a form of buffer memory, a disk cache or cache memory is an area where data is stored and can be transferred rapidly rather than being called up from the hard disk, floppy, or CD-ROM.

USEFUL PRODUCTS

Dr Solomon's Anti-Virus Toolkit
from £99 (price varies according to number of updates required)
S&S International
(0442) 877877

Norton Anti-Virus
£149
Symantec
(0628) 592222
Price includes a year's subscription and updates.

McAfee Virus Scan and Clean
£2.50
Shareware version
Popular shareware checker and repair program.

Datasave
£128
International Data Security
(071) 631 0548
As well as virus protection, includes other security programs such as access control and back-up.

Norton Utilities
£139
Symantec
(0628) 592222
Disk housekeeping utilities, file and disk repair

PC Tools v8
£139
Central Point Software
(081) 848 1414
Disk housekeeping utilities, file and disk repair

QEMM 386
£80
Quarterdeck
(0245) 496699
Memory manager for increasing conventional memory

CONFIG.SYS AND AUTOEXEC.BAT

Config.sys and Autoexec.bat are two files which are processed every time you switch your PC on. Autoexec.bat contains commands which precisely configure your PC. Config.sys contains commands which — mainly — set up your device drivers.

What are device drivers?
Anything that has been added to the basic PC box — like a sound card, a mouse, extra memory chips, or a CD-ROM drive — counts as a device for the purposes of the Config.sys file. Each device needs a driver, ie, a software file needs to be run which loads up the device so that your PC will recognise it.

A line in your Config.sys file which reads something like

Device=c:\dos\himem.sys

loads up the device driver for extended memory. Look out for the words Device= and then the location of the file.

What is an upper memory block?
If you have extra memory (more than 640K RAM) fitted in the PC, you can load some of your device drivers into the upper memory area, which is between 640K and 1Mb. For example,

Dos=high,umb

tells DOS to reserve you some upper memory blocks for device drivers.

What is a country code?
A line stating which 'country code' you want to use helps to configure the way the machine displays the time and date — so that the day appears before the month, for example. This line will look something like this:

Country=044,,c:\dos\country.sys

044 is the country code for the UK.

What about files and buffers?
You may have the following two lines in Config.sys:

Files=20
Buffers=20

The numbers may be different: files=30, maybe, or buffers=15. Files=x determines the number of files MS-DOS allows to be open at any one time; Buffers=x determines the amount of RAM that MS-DOS reserves to hold information being transferred to and from disk. Don't worry too much about these, their workings will be invisible to you unless a program asks to change the settings in your Config.sys file when it's being installed.

How do I edit my Config.sys file?
Load it into a word processor, or type

Edit Config.sys

at the C:\ prompt. It's only lines of text, so you can change the words or delete or add lines, then save it (Alt-F, S, if you used EDIT to load it up). Then reboot your machine and the changes will take effect.

REMEMBER: BEFORE YOU MAKE ANY CHANGES TO YOUR CONFIG.SYS FILE, YOU SHOULD ALWAYS BACK IT UP.

Either copy it to a floppy disk:

Copy c:\config.sys a:

or copy it under another name:

Copy config.sys config.bak

Now make the changes to the original Config.sys and if it doesn't work, you can always replace the new one with one you copied earlier.

So what is an Autoexec.bat file?
The Autoexec.bat contains a variety of DOS commands which are automatically executed when you switch the PC on.

DOS will look for the presence of an Autoexec.bat file and then carry out the instructions in it. It consists of lines which will tweak things such as the way your C:\ prompt is displayed, the exact layout of your keyboard – so that you get a pound sign when you press Shift-3, for example – and it will define the precise settings for the device drivers loaded in Config.sys.

For example, try this: at the C:\ prompt, type the following, exactly as it appears below:

Prompt td$_$p$g

What you should have now is, instead of boring old C:\, is the time, the date, then, on a new line, the current drive and directory as your prompt.

$t displays the time;
$d displays the date;
$_ moves the next text down one line;
$p displays the current drive and directory;
$g displays a > sign to separate your prompt from your commands.

If you put that line in your Autoexec.bat file, in the same way that you alter Config.sys as explained above, then you will always see that information as part of your C:\ prompt.

If I've already loaded the device drivers, why do I need precise settings for the devices?
The device driver simply tells DOS the device is there. Without Device=x, your x won't be recognised at all. The Autoexec.bat settings tell DOS more about how to use the devices, and can be tweaked, if you're feeling confident, to suit your exact configuration.

When you fit something like a sound card or CD-ROM, and run the install software that comes with it, nine times out of ten, the install program will automatically add these lines to Config.sys and Autoexec.bat with the correct numbers. It will probably ask you some questions about your PC set-up, and if you don't know or don't have the manual handy, there should be a default mode you can choose for convenience. If you have bought a machine with devices already fitted, the correct settings should be included already in the Autoexec.bat file.

I've heard that I can choose which Config.sys settings to use at each start-up. How do I do this?
If you have DOS 6 or later, you can choose which Config commands to activate. When you switch your PC on, the machine goes through its self-tests and after a few seconds, the words, "Starting MS-DOS ..." will appear on-screen. When that message is displayed, press the F8 key. Now you see the message MS-DOS will prompt you to confirm each Config.sys command

You will be given a choice of pressing Y to carry out each command, or N to bypass it – useful if you want to disable temporarily the CD-ROM drive to free up more memory for a disk-based program, for example.

GLOSSARY

CAD: stands for Computer-Aided Design. Technical drawing on the computer.

CD-i: stands for Compact Disc Interactive. A digital CD-based machine developed and sold by Philips with limited compatibility with other CD-ROM formats.

CD-ROM: stands for Compact Disc Read Only Memory. Physically the same as the compact discs you play music on, CD-ROMs hold up to 600Mb of computer data, stored digitally.

Centronics: the standard interface for computer printers, named after the manufacturer.

Chkdsk: Useful, but not foolproof, DOS command which when used regularly, will check your hard disk for file errors.

CIX: stands for Compulink Information eXchange, a bulletin board and e-mail service.

CLI: stands for Command Line Interface. A system, such as DOS, in which you must type in the correct commands to get the computer to perform.

Clip art: usually found in art packages or desktop publishing programs, these are files of images saved in the program's preferred format.

Co-processor: an additional processor used for auxiliary functions, especially mathematical operations.

Command.com: This is MS-DOS's command interpreter, a file which contains the bulk of the commands for MS-DOS, and without which your PC will not function.

Config.sys: a file which you create on your PC to load up device drivers for items such as a sound card, CD-ROM drive, etc, every time your machine is switched on.

Conventional memory: The first 640K of RAM, into which MS-DOS is loaded, and where all your programs must run from.

Cpi: stands for characters per inch. Used to describe the width of character output by a printer.

Cps: stands for characters per second. Used to describe the speed of printer output.

CPU: stands for central processing unit. Generally means the processor inside your PC, but it's often used loosely to refer to that and the motherboard as well.

Digital: making use of binary digits, eg, a device, such as a computer in which data is stored as binary numbers, as opposed to analogue devices (see above).

Digitisation: the act of turning non-digital data into a form understood by computers (ie, in binary digit form). Most often used at present to describe graphics (taken from film, paper, slides, etc) or sound (taken from tape) which is scanned (see below) into a computer-compatible form.

Directory: Your PC files can be grouped together in directories on a hard or floppy disk to make easier to sort them or find them. A common analogy is to compare the files with documents, stored in folders (directories) in a filing cabinet (the hard disk).

DOS: stands for Disk Operating System. A generic term which can refer either to MS-DOS or DR-DOS (see below).

DOS shell: a pseudo-graphical user interface (see below) included with MS-DOS v4 and later. This presents your filing system in tree-structure form and can make it easier to find, sort, copy and move files than typing commands at the C:\ prompt.

Dot matrix printer: printer which produces output by firing pins through an inked ribbon.

Download: to transfer data from a bulletin board system or central database on to your own computer.

Dpi: stands for dots per inch. A way of describing the density of output from the computer.

DR-DOS: stands for Digital Research Disk Operating System. An alternative and rival to MS-DOS, with some different functions, but compatible with it.

DTP: stands for desktop publishing. Software which enables the user to mix text, and graphics in a document to produce newsletters, newspapers and magazines.

DX: The DX sub-set of processors are the full-blown versions in their grade. A 386DX is a 32-bit processor as opposed to the 16/32-bit 386SX. A 486DX is a fully enabled version of the Intel 486 family.

DX2: A version of the 486 processor which does its internal calculations at twice the speed of the equivalent 486DX.

Edutainment: a term for educational games, which mix traditional gaming elements with educational content.

EGA: Enhanced Graphics Adapter. PC graphics mode which succeeded CGA. Now, like CGA, virtually obsolete.

EISA: stands for Electronics Industry Standards Association. This is an interface for use in 386 and 486 PCs which remains compatible with the older AT bus.

Electronic mail, e-mail: files sent from one computer user to another, often via a bulletin board, or over a network.

EMS: stands for Expanded Memory System. This was the first standard enabling MS-DOS to use system memory above 640K in the PC.

Emulator: a piece of hardware or software, which enables one computer to behave like another.

Expanded memory: a form of adding system memory above 640K to the PC so that it can be used by MS-DOS, and also programs written to support it.

Expansion ports, expansion slots: the connectors in the PC into which are inserted add-ons such as sound cards, joystick cards, internal modems, etc.

Extended memory: a form of system memory above 1Mb which can be used by programs written to support it.

Format: to prepare a disk, either a floppy disk or the hard drive, so that it will accept the relevant data (ie, format a disk on the PC and it will accept PC data, format it on an Amiga and will take Amiga files etc).

Game card: or joystick card. A board which fits into an expansion slot (see above), which a joystick can be plugged into.

Gigabyte: 1,024 megabytes.

Gouraud shading: a graphic technique in which colours are blended at the edges and rounded at the corners to give the impression of smoothness and speed when animated.

Graphical user interface: a system, such as Windows, in which you move an on-screen cursor and 'click' (usually with a mouse) on pictorial representations (icons) in order to make the PC perform commands.

Graphics card: the circuitry which drives the type of graphics and resolution (density) at which they appear on-screen.

GUI: stands for graphical user interface. See above.

Hidden file: a DOS file which has been marked as 'hidden' will not be displayed on the directory listing, and cannot normally be opened, read or deleted.

HMA, high memory area: a 64K block of memory above 640K which MS-DOS can load into with the command Dos= high after the Device= Himem.sys line in Config.sys.

Icon: a pictorial representation of a file or command on screen.

Inkjet printer: printer which works by ejecting tiny droplets of ink on the paper.

Io.sys: one of MS-DOS's two hidden system files. Needs to be present at start-up.

Joystick card: see game card.

Kermit: an old, not very advanced, protocol (method) for transferring files by modem.

What are multiple configurations?
Again, if you have any version of DOS 6, you can create a Config.sys file with separate configuration blocks. At start-up you can choose which block of commands to process. So you might have a configuration block which loads the sound card and CD-ROM drive, and another which doesn't include these and leaves you with much more free RAM for those really memory-hungry games.

In very, very simple form, a Config.sys set up for multiple configurations looks something like this:

```
[menu]
menuitem=CD-ROM games
menuitem=Disk games

[CD-ROM games]
device=c:\cdrom\cdriver.sys
device=c:\sndcard\sound.sys
device=c:\mouse\mouse.sys

[Disk games]
device=c:\sndcard\sound.sys
device=c:\mouse\mouse.sys
```

Now when you switch on your PC, you will see the message

```
MS-DOS 6 Startup Menu
1. CD-ROM games
2. Disk games
Enter a choice:
```

Take it from there!

MEMORY PROBLEMS

One of the first stumbling blocks that many new users come across is how memory works on the PC, partly because the word 'memory' is used to mean both permanent file storage space and the memory chips, called RAM, installed inside the machine. Thus ...

When I try to run Tharg Commander, it says I have insufficient memory. But there's 120Mb on my hard disk – what's going on?
Your hard disk and floppy disks are the permanent storage places for your programs and data. Your system memory, in the form of memory chips on the main circuit board of your PC, temporarily holds programs, or parts of programs, when you use them.

A word processor program, for example, is stored on your hard disk, but when you type the command to load it, or click on its icon in Windows, however much of the word processor is needed for the program to display on-screen and function is loaded into system memory.

Documents that you write with the word processor are held in system memory until you actually save them to disk. System memory is dynamic, ie, when you switch the PC off, the system memory switches off too, and contents are lost, which is why you lose any work not saved if your machine crashes. Files saved to hard or floppy disk remain stored until you physically delete them.

So, each program will require a different amount of system memory to be free. When you switch on the PC, MS-DOS will load into your system memory, as will any software used to run devices such as mice or sound cards. If Tharg Commander wants 610K free to run the program and you only have 570K left after DOS and devices have loaded, you will get a message saying you have insufficient memory.

That's all right. My PC's got 4Mb of RAM, so I must have at least 600K left.
What the program is talking about is the first 640K of your system memory. This 640K is called base or conventional memory, and this is where programs will load the pertinent parts in order to run.

The rest of your 4Mb can be configured as expanded or extended memory and your programs will make use of this as well, but they still need a good chunk of that first 640K.

How do I know how much conventional memory I have left?
At the C:\ prompt, type MEM, and you will see a table of conventional memory used, expanded/extended memory used, and then a line reading:

Largest executable program size

followed by a number in kilobytes, and then in bytes in brackets, which indicates the amount of free conventional memory.

On average, you could expect to find a figure between 535K and

GLOSSARY

Key disk: some programs require you to insert a master disk in your floppy disk drive while using the program on hard disk as a form of copy protection. This master disk is referred to as the key disk.

Kilobyte: 1,024 bytes.

Laser printer: printer which outputs in not too dissimilar fashion to a photocopier.

Low level format: Formatting a hard disk is a two-stage process: the initial low-level format prepares the disk for a high level format, after which data can be recorded. Occasionally, a low level format may be the only way to repair a damaged hard disk, although you will lose all existing data in the process.

Main board: general term for the motherboard of the PC.

Maths co-processor: a second processor in the machine, which is used to carry out mathematical functions by programs which support them.

MCA: stands for Micro Channel Architecture. An expansion bus developed by IBM, originally designed to bring the bus in line with faster 386 processors.

MCGA: stands for Multi-Colour Graphics Array, a graphics mode on some IBM PS/2 machines.

Megabyte: 1,024 kilobytes.

Memory-resident: a program which remains in memory even while other programs are running. Programs such as desktop organisers are often designed to be memory resident so that the user can switch to them at a single keypress; virus scanners usually remain in memory so that they can scan any floppy disks as they are inserted in the drive.

MHz, megahertz: the unit of frequency at which electric current cycles through the processor. Used to describe the speed of the processor.

MIDI: stands for Musical Instrument Digital Interface. A system by which electronic musical instruments can be connected to each other and to a computer, which then controls all of them.

Mini-Tower: a squat – roughly half-height – version of the Tower, where the PC itself is housed in upright casing. See Tower, below.

Modem: stands for *Mod*ulator/*Dem*odulator. A device which enables you to connect your PC to the telephone line and send and receive data through it.

Motherboard: the main board for a computer circuit.

MPC: stands for Multimedia PC. A standard minimum specification for developing and running CD-ROM software.

MPEG: stands for Motions Pictures Experts Group, a compression standard for video images.

MS-DOS: stands for MicroSoft Disk Operating System. The standard operating system for the PC. The operating system is the base program which enables you to run applications on the PC, use disks and add-on devices and organise your files.

Msdos.sys: one of MS-DOS's two hidden system files. Needs to be present on start-up.

Multimedia: the use of data from different media in the same program, eg, mixing video, computer graphics, sampled speech, music, text, etc. Often sloppily used to refer to any CD-ROM program.

Multisync: a type of monitor which can switch between high resolution graphics modes without the need for extra software.

OCR: stands for optical character recognition. Software which 'reads' text scanned into the computer with a scan-

Access

ONLY THE BEST
COMPUTER SOFTWARE
7 CLEEVE WOOD RD, DOWNEND, BRISTOL, BS16 2SF
TEL: 0272 401315/401316

VISA

MON-FRI 10am - 7pm , SAT 10am - 5pm SUN TIMES VARY. ANSWERPHONE AT ALL OTHER TIMES.

All prices include V.A.T. UK postage add £1.00.per item Prices subject to change. Access and Visa accepted. Allow 7 days for cheques.

CALLERS BY APPOINTMENT ONLY

LOOK ! NO VAT TO ADD NO CREDIT CARD SURCHARGE

OTB CODE OF PRACTICE
1. CREDIT CARDS ARE NOT CHARGED UNTIL GOODS ARE DESPATCHED.
2. THE CUSTOMER IS ALWAYS INFORMED WHETHER GOODS ARE IN STOCK OR NOT

THE BEST VALUE AND THE BEST SERVICE

SPECIAL OFFERS

HARDWARE

Panasonic 562B CD ROM	£169.99 (144.67 + VAT)
Zi Fi Stereo Speakers	£32.00
Soundblaster Pro	£96.00

CD TITLES

Day of The Tentacle	£27.99
Indiana Jones Fate of Alantis	£27.99
Loom	£27.99
MegaRace	£34.99
Microsoft Encarta 94	£79.99
Rebel Assault	£28.99
Sam & Max	£27.99

PC TITLES

Commanche Maximum Overkill	£22.99
Frontier Elite 2	£21.99
Lemmings 2 The Tribes	£14.99
Sim City 2000	£22.99

CD ROM TITLES

7TH Guest £31.99	Eye of The Beholder 3 £25.99	Links Collection £32.99	Return To Zork £31.99
7TH Guest + Dune £36.99	F15 III Strike Eagle £28.99	Loom £27.99	Ring World £25.99
10th Anniversary £31.99	F117a+f15 11 £28.99	Lost in Time 1+2 £30.99	Rise of The Robots Call
Action 16 CD £22.99	Fantasy Empire £23.99	Mad Dog McCree £29.99	**Sam & Max** £27.99
Advantage Tennis £18.99	Flight Sim Tool Kit £31.99	Man Enough Call	Shadowcaster Call
Alone in The Dark +Jack In Dark £16.99	**Gabriel Knight** 28.99	Mavis Beacon Typing V2 £28.99	Shadoworlds £14.99
ATP USA £55.00	Goblins 3 Call	Megarace £24.99	Sherlock Holmes 1 £31.99
B17 + Silent Service 2 £28.99	Golden 7 Compilation £31.99	Microcosm £33.99	Sherlock Holmes 2 £31.99
Battle Isle 2 £30.99	Great Naval Battles £27.99	Microsooft Art Gallery £39.99	Sherlock Holmes 3 £31.99
Battlechess £27.99	Great Naval Battles 2 £25.99	Microsoft Beethoven £39.99	Spellcasting Triple Pack £25.99
Beneath A steel Sky Call	Hell Cab Call	Microsoft Cinemania 94 £39.99	Star Trek 25th Anniversary Call
Bloodnet £30.99	Historyline 1914-18 £25.99	Microsoft Dinosaur £39.99	Stonekeep Call
Castles 2 Enhanced £30.99	**Indiana Jones Fate of Atlantis** £27.99	**Microsoft Encartia 94'** £79.99	**Strike Commander** £32.99
Challenge Pack £25.99	Inca 2 £34.99	Microsoft Golf £31.99	T.F.X. £31.99
Chessmaster 3000 PRO £34.99	**Iron Helix** £25.99	Microsoft Mozart £39.99	The Hoarde £38.99
Commanche Maximum Overkill £30.99	**Journey Man Project** £25.99	Microsoft Musical Instruments £39.99	Tony La Russa Baseball 2 £29.99
Conspiracy £28.99	Jurrasic Park £25.99	Monkey Island £27.99	Tornado £30.99
Critical Path £30.99	Jutland £35.99	Myst £37.99	U.F.O. Enemy Unknown £28.99
Cyber Race Call	Kings Quest V1 £29.99	**Nomad** 20.99	Ultima Series 1-6 £36.99
Darkseed Call	Labryinth of Time £25.99	Outpost £31.99	Ultima 7 £30.99
Dark Sun Shattered Lands £27.99	Lands Of Lore £27.99	Patrician Call	Ultima 8 Pagan £36.99
Day Of The Tentacle £27.99	Laser Squad £14.99	Police Quest 4 £28.99	Ultima Underworld 1+2 £30.99
Dracula unleashed £31.99	Laura Bow 2 £27.99	Protostar £25.99	Ultima Underworld + Wing Commander 2 £30.99
Dragonsphere £25.99	Lawn Mower Man £34.99	Quest For Glory 4 £28.99	Wing Commander 2 Deluxe £30.99
Dune £33.99	Leader Board Collection £24.99	Ravenloft £28.99	**Wolf Pack** £22.99
Dungeon Hack £24.99	Leisure Suit Larry 6 £28.99	**Rebel Assault** £28.99	Worlds of Xeen £33.99
Elite 2 £25.99	Legend Of Kyrandia £28.99	Red Shift Call	
Eric The Unready £22.99	Lemmings Double Pack £25.99	Return Of The Phantom £28.99	

PC TITLES

A320 Airbus £28.99	Evasive Action £22.99	Links 386 Pro Courses: £15.99	**Sam & Max** £25.99
Aces Of The Pacific + Missions £28.99	Even More Incredible Machines £25.99	Litil Divil £24.99	Scrabble £20.99
Aces Of The Deep £29.99	Eye Of The Beholder III £24.99	Lords of Power £25.99	Settlers Call
Aces Over Europe £27.99	Empire Deluxe £27.99	Lost In Time £26.99	**Shadow Of The Comet** £24.99
Air Bucks V1.2 £21.99	F 14 Fleet Defender £27.99	Lost Vikings £21.99	Shadowcaster £27.99
Air Combat Classics £28.99	**Falcon 3.0 + F15 111** £35.99	Lotus Ultimate Challenge £21.99	Sherlock Holmes The Lost Files £24.99
Alien Breed £18.99	Falcon 3.0 MIG29 Add On £16.99	Masters Of Orion £27.99	**Sim City 2000** £22.99
Alone In The Dark 2 £23.99	Fantasy Empires £22.99	Mavis Beacon Typing V2 £23.99	Sim Farm £21.99
Alone in The Dark + Jack £16.99	Fantastic Dizzy £15.99	Merchant Prince £27.99	Simon The Sorceror £24.99
Archon Ultra £22.99	**Fields Of Glory** £27.99	MicroMachines £19.99	Sink Or Swim £17.99
Armour Geddon £15.99	Fire & Ice £19.99	**Microsoft Arcade** £15.99	**Space Hulk** £27.99
Air Transport Pilot £23.99	**Flashback** £23.99	**Microsoft Creative Writer** £32.99	Speed Ball 2 £12.99
Award Winners 2 23.99	Flight Simulator 5 £29.99	**Microsoft Fine Artist** £32.99	SSN-21 Seawolf £27.99
A Train £15.99	Flight Sim 5 Scenery Washington £24.99	Microsoft Golf £29.99	Starlords £27.99
AV8B Harrier Assault £24.99	Flight Sim 5 Scenery New York £15.99	Might +Magic 4 £30.99	Star Trek 2 Judgement Rites £27.99
B17 Flying Fortress + Dogfight £35.99	Flight Sim 5 Scenery Paris £15.99	Might+Magic 5 £30.99	Stonekeep Call
Battle Isle 2 £Call	Flight Sim 5 Scenery San Francisco £24.99	Monkey Island 2 £21.99	Streetfighter 2 £18.99
Battle Isle 93 £16.99	Flight Sim Tool Kit £30.99	Mortal Kombat £19.99	**Strike Commander** £29.99
Battles Of The South Pacific £27.99	Formula 1 Grand Prix £27.99	NFL Coaches Club Football £22.99	Strike Commander SAP £13.99
Beauty And AThe Beast 18.99	Fury Of The Furries £21.99	NHL Ice Hockey £27.99	Strike Commander Tactical ops £13.99
Beneath Steel Sky £24.99	Freddy Pharkus £24.99	Nick Faldo's Golf £24.99	Stronghold £21.99
Betrayal At Krondor £27.99	**Frontier Elite II** £21.99	Nomad £19.99	**Stunt Island** £28.99
Bloodnet £27.99	Front Page Sports Football Pro £24.99	Omar Sharif's Bridge £24.99	Sub War 2050 £27.99
Blue And The Grey £24.99	Gabriel Knight £24.99	Overdrive £19.99	SVGA Harrier £27.99
Breakline £16.99	Genisia £21.99	Pacific Strike £29.99	**Syndicate** £27.99
Brutal Sports Football £18.99	Global Domination £24.99	Pacific War £25.99	**Syndicate Data Disk** £15.99
Body Blows £18.99	Goal £19.99	Patrician £21.99	Terminator Rampage £23.99
Cannon Fodder 23.99	Great Naval Battles £24.99	Patriot £27.99	T.F.X. £27.99
Campaign 2 £24.99	Great Naval Battles 2 £24.99	Perfect General Triology £27.99	Tornado £27.99
Car & Driver £24.99	**Gunship 2000** £24.99	Pinball Dreams £22.99	Tornado Of Desert Storm £15.99
Carriers At War II £27.99	**Heir to The Throne** £27.99	Pinball Fantasies £23.99	UFO Enemy Unknown £27.99
Carriers At War Construction Kit £25.99	High Command £27.99	Police Quest 4 £24.99	Ultima 7 £24.99
Chaos Engine CALL	Hired Guns £24.99	Populous 2 £25.99	**Ultima 7 Part II Serpents Isle** £27.99
Chessmaster 3000 £23.99	**HistoryLine** £24.99]	Premier Manager 2 £21.99	**Ultima 8 -Pagan** £29.99
Chessmaster 4000 Turbo £23.99	Indiana Jones Fate Of Atlantis £23.99	**Prince Of Persia 2** £24.99	**Ultima 8 Pagan SAP** £15.99
Civilisation £24.99	In Extremis £23.99	**Privateer** £29.99	Ultima Underworld £24.99
Civilisation Windows £27.99	Inferno Call	**Privateer SAP** £13.99	**Ultima Underworld 2** £24.99
Clash Of Steel £23.99	Inca 2 £30.99	**Privateer Righteous Fire** £13.99	Unlimited Adventures £22.99
Commanche Over The Edge £16.99	**Incredible Toons** £24.99	Quarter Pole £23.99	Unnecessary Roughness £24.99
Commanche Maximum Overkill £22.99	Indy Car Racing £27.99	Quest For Glory 4 £24.99	**V For Victory 3** £28.99
Daemonsgate £20.99	Innocent Until Caught £24.99	Railroad Tycoon £13.99	**V For Victory 4** £24.99
Dark Sun Shattered Lands £28.99	**Jurassic Park** £22.99	Railroad Tycoon Deluxe £24.99	Victory At Sea Call
Day Of The Tentacle £26.99	Kasporovs Gambit £27.99	Rally £22.99	War In Russia G Rigsby £27.99
Delta V £29.99	Kingmaker £23.99.	Ravenloft £27.99	Warlords 2 £27.99
Dettroit 24.99	Kings Quest VI £27.99	Red Baron + Mission Disk £28.99	Werewolf Call
DGeneration Windows £15.99	Lands Of Lore £22.99	Red Hell Call	Wolfenstein 3D £14.99
Diggers £24.99	Legacy + Return of Phantom £35.99	Return To Zork £28.99	Xanth £24.99
Dune 2 £22.99	Legend of Kyrandia 2 Hand of Fate £23.99	Reunion £25.99	**X-Wing** £26.99
Dungeon Hack £23.99	Leisure Suit Larry VI £24.99	**Ringworld** £25.99	X Wing Mission Disk (Imperial Pursuit) £14.99
Elder Scrolls £26.99	Lemmings 2 The Tribes £14.99	Rise of The Robots Call	X Wing (B Wing) £14.99
European Championship £19.99	Lemmings Double Pack £24.99	Rules Of Engagement 2 £27.99	
Elite 2 £21.99	Links 386 Pro £27.99	Sabre Team Call	

600K. If you have less than 500K free out of your base 640K, then you may well have a TSR (terminate and stay resident) program running.

If you want a more detailed breakdown of exactly which programs are using up memory, type MEM /C for a full list.

What do the terms 'expanded' and 'extended' memory mean?

When a program calls for expanded or extended memory, the actual memory chips it requires are precisely the same; it's the way in which the memory is managed that differs.

Expanded memory is the older way. It works, roughly speaking, by moving 16K blocks of data in and out of the high memory area (the area between 640K and 1Mb) as needed by the program, which must be written specifically to take advantage of it.

Memory above 640K is extended memory by default on PCs with at least a 286 processor. While DOS itself doesn't use extended memory, many programs do.

With a 386 or later processor, an expanded memory manager will convert your extended memory to expanded. With a 286 or older, you need to add expanded memory on a separate board. Current versions of DOS come with both an expanded memory manager (Emm386.exe) and an extended memory manager (Himem.sys). The following line in your Config.sys file

```
Device=C:\[path]\Emm386.exe
```

makes your PC ready to run programs needing expanded memory. The word [path] just means the name of the directory where the file is kept — probably the DOS directory. If you add a number such as 1024, or 2048, at the end of this line, then that is the amount, in kilobytes, that DOS will allocate to expanded memory.

Any that is left over is configured as extended memory, providing you also have a line reading

```
Device=c:\[path]\Himem.sys
```

at the top of the Config.sys file. This line needs to come before the Emm386 line.

How do I free up more conventional memory then?

There are two things you can do with Config.sys and Autoexec.bat to free up more base memory. Either remove some commands so that non-essential device drivers and configurations aren't loaded, or load them into the high memory area, or upper memory blocks (386/486 PCs only).

To take this latter method first: if the first two lines in your Config.sys are:

```
Device=Himem.sys
Dos=High
```

then, after rebooting, DOS will load into the high memory area, a 64K block above 640K. This works with a 286, 386 or 486 and DOS 5 or later.

If you put the following two lines are in your Config.sys, immediately after the Device=Himem.sys line:

```
Device=c:\[path]\Emm386.exe
                        noems
Dos=High,umb
```

then the next time you reboot your PC, some spare upper memory blocks will be created. These blocks can then be used to load device drivers into, such as

```
Devicehigh=c:\cd\cdriver.sys
```

in place of Device= in the Config.sys. This line will load this mythical CD-ROM driver into an upper memory block.

The first method is simply to dis-

able anything in the Config.sys and Autoexec.bat that looks superfluous, and to save memory that way. However, we wouldn't advise deleting the line altogether: you might discover it was useful for something after all!

Instead, you can simply alter the lines in the Config.sys or Autoexec.bat file (see the section on editing these files, above, for exactly how to do this), so that instead of reading, say

```
Path=c:\dos;c:\mouse
```

the line reads

```
Rem path=c:\dos;c:\mouse
```

Rem stands for Remark, and tells DOS that this line is only a comment, not a command. Now, if you ever want the line back, all you have to do is to delete the word Rem.

If you have DOS 6, you can choose which Config.sys lines to use at startup, by pressing F8 when you see the line Starting MS-DOS ... appear on-screen after you switch on. Now MS-DOS will go through the Config.sys file line by line, asking if you want to load it or not. Again, this is explained in more detail in the section, above, on Config.sys and Autoexec.bat.

MAKING A BOOT DISK

If you're having difficulties freeing up enough memory to run a program and you're fed up to the back teeth with editing Config.sys and Autoexec.bat to no avail, an easy way out is to make a boot disk.

This is a floppy disk with just enough files on it to load MS-DOS, but not so many that it eats into your conventional memory.

There are two ways to create a boot disk, one for formatted floppy disks, and one for unformatted. All you need is the floppy disk, a sticky label and a pen.

If your floppy disk is already formatted, make sure it's blank, put it in your disk drive and then, at the C:\ prompt, type

```
SYS A:
```

This will transfer three files (four in DOS 6) from the hard drive to the floppy drive. The two system files, which are probably called Io.sys and Msdos.sys, are 'hidden' and not normally visible to a directory listing (so just take our word for it that they're copied across). The third is the all-important Command.com. The fourth, exclusive to DOS 6, is Dblspace.bin, which is also a hidden file. Once the files have copied over, your floppy disk is now a boot disk. It contains the bare minimum to run MS-DOS, while leaving plenty of memory free for running hefty games.

If your floppy disk is unformatted, you can format it and make it a system disk in one fell swoop. Put the disk in your floppy disk drive and type:

```
FORMAT A:/S
```

The format command will format the disk. The /s is called a switch, and tells DOS to transfer the three main system files to the floppy disk, making it a boot disk.

Now take the sticky label and pen and label the floppy as a boot disk.

Because the Sys and Format/s only transfer the fewest files necessary to boot the system, your mouse will not be loaded, nor will a sound card or CD-ROM drive be loaded with a device driver.

You can load these separately from the C:> prompt, after using the boot disk to start up, but it's probably easier to make Autoexec.bat and Config.sys files on the boot disk itself. And the easiest way to do this is to copy over your standard Config.sys and Autoexec.bat files from your hard disk and then remove all the lines except the ones you need for the program to run, such as the mouse driver, sound card settings, or expanded memory manager lines. This at least guards against typing errors when you try to create the new Autoexec.bat and Config.sys on the floppy disk.

Note: several program manuals explain how to make a boot disk and suggest specific commands to go into the Config and Autoexec files on the boot disk — usually with regard to extended and/or expanded memory requirements specific to the program in question. Let the program manuals recommendations override your existing configuration if you want the program to work properly.

NEXT MONTH

In our next issue we'll also include advice on using compressed drives, using DOS wildcards, and some tips for making the most of Windows.

GLOSSARY

ner (see below) and converts it into the original characters (when scanned, the document will be saved as a graphics file rather than a text file).

Parallel port, interface: interface for parallel signals usually used to connect printers.

Partition: division of a hard disk drive into more than one 'logical' drive, ie, although physically the same hard disk, different areas are assigned their own drive letter. Originally, users were forced to partition larger drives, because early versions of MS-DOS could only address up to 32Mb on one disk.

Patch: an add-on disk to a program which can be bought by existing users and which usually fixes a bug, or provides an update to the program.

Path, pathname: the 'tree' of directories and sub-directories that defines the location of a file or group of files. For example, c:\wordpro\john\sample.let is the path for the file Sample.let in the sub-directory John, in the directory Wordpro, which is in the root directory.

Pentium: The name for what is logically the 80586 processor. Intel, the manufacturer, gave the chip a name rather than a number to make life more difficult for rival manufacturers. Numbers — such as 586 — cannot be trademarked in the US but, of course, names can be. Thus, while other companies can develop what is, in effect, also a 586 chip, they cannot call it a Pentium and reap the reflected rewards from Intel's high brand name visibility.

Pixel: stands for Picture Element. The smallest size of on-screen dot that can be directly controlled by the computer.

Port: a chip which controls the connection of external devices to the computer. Often used loosely to mean the socket, the interface, the back of the PC, etc.

Processor: the chip that drives your PC, and deals with mathematical and logical operations.

Program Manager: the main screen, or 'front end' to Windows, from where all Windows operations can be accessed.

Public domain: software designed to be distributed free of charge, with no copyright attached.

RAM: stands for Random Access Memory. This is the dynamic system memory which holds programs and data while they are being worked on.

Read-only: a file or disk whose contents can be read or copied, but cannot be changed.

Resolution: the density of dots on-screen, or in printed hard copy (or in graphic files) which determines how detailed the picture (or print) looks to the eye. Standard VGA screens display at 640x480 pixels, SVGA at up to 1024x768. Resolution of print is measured in dots per inch — a standard laser printer prints at 300dpi.

ROM: stands for Read Only Memory. This is permanent memory, and in PCs is generally used for start-up operations — routines stored in Rom carry out the self-tests and activate DOS when you switch the machine on.

Root directory: the directory immediately under C:. See path.

Scanner: a device which 'reads' printed matter and converts it into digital information which can be stored as a computer file.

Screen saver: Spurious, but mildly diverting software which puts pictures and animations on your screen if you don't press a key for a certain length of time.

SCSI: (*pron Scuzzy*) stands for Small Computer Systems Interface. A multi-purpose interface between the computer and peripherals, mainly disk drives and CD-ROM drives. Provides very fast data transfer.

Serial port, interface: an interface which uses serial connections. Mainly used for modems, networks, and some mice. Standard serial interfaces on PCs come in two versions: 9-pin and 24-pin and adapters are readily available.

Shareware: Software designed to be used and distributed freely on a trial basis, but for which users are expected to register and pay if they wish to use it regularly. Shareware is subject to copyright.

SIMM: stands for Single Inline Memory Module. Board with a set of memory chips for comparatively easy RAM upgrades.

Sound card, soundboard: board which plugs into a spare expansion slot and enables programs to play music and sound effects through it, coupled with a set of speakers.

SVGA: stands for Super VGA (Video Graphics Array, see below). A general standard describing graphics modes of 800x600 and up to 1024x768 with at least 256 colours.

SX: the 'cut-down' versions of processors. The 386SX processor is a cut-down version of the 386DX, because although it processes data internally 32 bits at a time, it only accepts and transfers data 16 bits at a time. The 386DX is a true 32 bit processor. The 486SX, however, is a 486DX without a built-in maths co-processor.

System disk: a floppy disk with DOS system files on it which will boot up the machine.

System files: the files which make up the operating system of the computer.

TLA: stands for Three Letter Acronym, much beloved of computer programmers, journalists and data processing managers.

Tower, mini-Tower: an upright casing for the PC, designed to save desk space, since it will stand on the floor.

TSR: stands for Terminate and Stay Resident, a memory resident program which you can exit from but call up typically with a single keypress since it is still stored in system memory. See Memory Resident, above.

UMB, upper memory block: smallish areas of unused memory between the first 640K and 1Mb. You can put drivers in here by using the command DEVICEHIGH instead of DEVICE in the Config.sys file. Upper memory blocks are explained in more detail elsewhere on these pages.

Upload: to transfer files from your computer to another, typically to a bulletin board or central database.

Vector graphics: a graphics technique characterised by the drawing of geometric lines for precise scaling and movement.

VESA: stands for Video Electronics Standards Association. A group of graphics card manufacturers who have determined standards for high resolution monitors and graphics adapters.

VGA: stands for Video Graphics Array. An IBM graphics mode which has become the base standard for PC colour displays.

Virus: a program which has been specifically designed to alter the contents of other programs, with differing effects but usually rendering the programs unusable.

Virus checker, virus scanner: a program that will check files for the presence of a virus, usually by looking for unexpected patterns in the file contents.

Virus killer: a program which will remove the virus elements from an infected file and — optimally — repair the file.

Wallpaper: the background to — usually — a graphical user interface screen, such as the screen background in Windows.

Windows: a graphical user interface developed by Microsoft for use with DOS on the PC.

Write-protect: to render a disk read-only, so that its contents cannot be altered, usually by moving a notch at the top of the disk's casing.

XA, CD-ROM XA: stands for eXtended Architecture. CD-ROM with additional video capabilities.

XGA: eXtended Graphics Array. IBM graphics mode.

XModem, YModem, ZModem: three different protocols — sets of rules — for transferring data via modem. ZModem has become the preferred standard.

XMS: stands for eXtended Memory System. See Extended memory, above.

Q+A

Is your hardware making your head ache? Is DOS driving you dotty? If you've problems with your PC, share them with Mike James and he'll try to help.

TECHNICAL HELP

Tseng drivers and CD Cables

Q I am the proud owner of a 386 40 MHz PC running Windows 3.1. I have recently purchased a Tseng ET4000 Graphics card (like the one shown in your magazine.) I unwrapped it carefully and installed it without trouble. All was working fine, until I tried to install a 1048 x 768, 256 colour (or higher if possible) graphics driver. To my surprise there wasn't one anywhere to be found. The disk that came with the card was 5.25 format. Great, I thought, I'll just have to ask my mate to copy it for me. He did so and to my surprise nothing could be found on the disk. This really upset me, for whilst I was able to run games like Links 386 Pro using SVGA, I was unable to run a simple program like the Origin FX screensaver for Windows as it ran in 256 colour. Do you know where I might find a copy of the drivers?

Also, I have seen the new Mitsumi CD-ROM drive for sale in the computer ads. It says it is fast, but is it faster than the Panasonic CR562b? And does the advert that said "CD to SoundBlaster cable" mean I can connect my SoundBlaster v2.0 up to a CD-ROM, or is it a misprint?

David Bird
Bristol

A *The key question here is – drivers for what? I agree that the drivers disk shouldn't have been blank, but if the drivers you are missing were on it, you would now be asking me which drivers to use. A video driver has to be matched to the software and the hardware, and the problem is usually finding a driver for a particular application even when you do have a disk full of ET-4000 drivers. Typically drivers are supplied for GEM, Windows, Wordstar, Lotus 1-2-3, AutoCAD and a few other standard applications.*

Now for the good news : you can get ET-3000 and ET-4000 Windows drivers on a shareware disk. Try disk 2863 from PDSL. The second piece of good news is that the ET-4000 video card is so standard that most software will support it directly or via a driver that is supplied with the software. Even the very latest version, such as 3.11 of Windows doesn't need special drivers to work with it. In short, I don't think you would have found much of use on the diskette even if it hadn't been blank! Also given that it was a 5.25 inch diskette, any drivers on it would have been a bit ancient. By the way don't try for video modes above 1024x768 in 256 colours – it is unlikely that the card has enough memory installed to support them and if it did your SVGA monitor probably doesn't work that high.

Finally, the CD-ROM to Sound Blaster cable. This is just a small audio cable that connects the audio output of the CD-ROM drive to the audio input of the Sound Blaster card. By making this connection any output from the CD-ROM can be heard over the SoundBlaster's speakers. Without it you need two sets of speakers or should be prepared to swap one set over.

Joysticks and more CD-ROM problems

Q I own a 486DX, CD-ROM, SoundBlaster Pro and SVGA and have two problems which I hope you can help solve.

I have the game Tornado on CD: the only problem I have with it is that when I try to recalibrate the joystick, the game places the centre of the joystick at the top left of my own joystick, making my plane go down every time I try to pull up. Could there be something wrong with my joystick? It is a Quickshot Warrior 5 and is plugged onto the game port that came with the computer and not on the SB-Pro, I have checked to see if the SB-Pro one is turned off, and it is.

My CD-ROM is made by Mitsumi (I think) model CRMC. When I try to install the driver MTMCDE system onto my computer it crashes. When I list the directory of the CD-ROM it works fine with the driver MTMCDS system, I have checked if there are any DMA and IRQ channels free, and there are, and the software has been set up properly.

P Jutla
High Wycombe
Bucks

A *Well, you seem to be doing all the right things – but sometimes it still doesn't work. The Quickshot joystick is perfectly standard and works well in general. As long as the SB-Pro port is turned off there should be no problem in using it. The only other suggestion I can make is to try adjusting the X,Y trimmers to centre the joystick's screen position manually. If this cannot be done, then the chances are that there is something wrong with the joystick. It is also possible that there is some sort of problem in the game's calibration routines. If the joystick works fine with other software then this is the most likely explanation.*

The CD-ROM is indeed a Mitsumi drive. The difference between the two drivers is that the E driver makes use of a DMA channel to transfer data and the S driver doesn't. The S driver is likely to be as fast at transferring data as the E driver, but it ties up the processor during the transfer. This usually makes little difference unless you are using a particularly advanced application that knows how to make everything go faster by using the processor while data is being transferred – most don't!

In other words, you don't have to worry too much about not being able to make the E driver work. However if you do want to have another go then you have to make sure of two things: first that the interface card's jumpers are set to a free IRQ and DMA channel number; and second, that you configure the driver to use the same two numbers.

In fact there is a halfway method of trying to get the card working. If you tell the driver not to use a DMA channel at all then you can see if the

IRQ number you have selected works. To do this tell the driver installation software that you want to use DMA (DRQ) channel S. This will disable the DMA and only use the interrupt that you have selected. If the driver still crashes try another IRQ number. Once you get this working then try the DMA channel.

Tentacle trouble ...

Q I don't know whether anybody else has had problems running Day Of The Tentacle, but I have had this problem for a couple of months (running it from CD-ROM) and I just can't find a solution for it. My problem is that the game keeps locking up in the introduction. If I skip the introduction, I can play for a couple of minutes, but then it locks up again. The game locks up in different places, but mainly when the three are just about to travel in time. The game works on my friend's computer but not on mine. Why not? The machine is 486DX-33 with a SCSI hard disk and it boots up via the SCSI controller.

I have gone to various computer shops but without success. They all say that it has something to do with a DMA conflict with my SoundBlaster Pro but I've tried changing the DMA channel and even removing the card – and it still doesn't run.

The only good that has come out of this is that I know more about the PC, but still not enough to get it working. If you do help me then I will buy your magazine forever and ever, honest.

Mark Bell
Maidstone
Kent

A *OK, a lifetime subscription seems worth an answer. Yes you're not the only one with Day of the T troubles, but at the moment none of the problems fit into any coherent pattern. Take your particular problem, for example – it is reasonable to suppose that it is explained by a DMA conflict as most lock-ups are due to either a DMA or an IRQ conflict. But given that you have taken out the only odd piece of hardware that might be causing the problem and it still happens, it must be something else.*

My best guess is that it is down to your SCSI drive and the SCSI controller in particular. SCSI controllers do have a habit of causing weird problems due to their use of RAM for additional buffering. What happens is that some memory management software doesn't notice that the buffers are being used by hardware and move them around just like they would any other block of memory. Unfortunately in this case the result is a system crash. From the Config.sys file that you sent me I can see that you have the line

```
DEVICE=C:\DOS\SmartDrv.exe
/double_buffer
```

which tries to protect the buffering area used by the SCSI controller. The only thing I can add is that this line should come before the line that loads EMM386.EXE. If this doesn't work then it is always possible that Tentacle. does its own memory management and so still makes a mess of the disk controllers buffers.

I asked US Gold for my own copy of Tentacle. so that I could try it out on a system using the same SCSI controller as yours, but it said it didn't have many review copies and had used up its allocation... I leave you to make up your mind what to think about this – but US Gold did say that I could pass the question on to its help line...

Where is EMM386?

Q I have a 386 with a 40Mb hard disk (stacked), 2Mb RAM, DOS 5. Recently, I bought Frontier Elite 2. I tried to install it but I got this message :

"594k approx. needed to install, remove unnecessary drivers."

Having made changes to my Config.sys and Autoexec.bat I rebooted my system which gave me 634k, enough to meet the requirement.

Again I tried, but the message was: "EMS Driver required."

Having checked my DOS directory, I found EMM386.EXE, included it in my Config.sys, yet still I got another message:

"bad command or filename EMM386.EXE not found."

I got in touch with Gametek. They said that my EMM386 was bad and that I should get a copy of another EMM386 from another PC, it must work after that.

Low and behold, I got three copies, and yes you guessed it. Tto this day it still doesn't work.

I believe software companies that sell games to us members of the public should include not only the hardware requirements, but the Config.sys and Autoexec.bat files best used for their software.

If you can advise me as to where I am going wrong, I would be very grateful.

G Payne
Middlesex

A *That's a nice thought – the one about software companies specifying the Config.sys and Autoexec.bat needed to make their games work. Given the way that machines vary, I'm not sure it's possible to do, but then again it might be! In this case I don't think that specifying a typical Config.sys file would have helped. You are absolutely right about including the command*

```
DEVICE=C:\DOS\EMM386.EXE
```

line in your config.sys file. This should create a default 256K of expanded memory. The error message that is produced is very puzzling and suggests that DOS cannot find EMM386.EXE or when it does it has problems loading it. As long as EMM386.EXE is stored in the DOS directory then there should be no problem finding it. As an alternative, try copying EMM386.EXE to the root directory ie,

```
COPY C:\DOS\EMM386.EXE C:\
```

and then change the DEVICE to read

```
DEVICE=EMM386.EXE
```

If this doesn't work then there must be some problem with the file itself – as the helpline suggested. The trouble is you cannot just copy any old EMM386 to your machine because it has changed with each version of MS-DOS and Windows. You need to make sure that you get hold of a copy from the same version of MS-DOS. Better still use the version which is included with Windows:

```
DEVICE=C:\WINDOWS\EMM3
86.EXE
```

X-Wing problems

Q I recently purchased a copy of US Gold's X-Wing, but am having problems trying to get it to run properly. My system set-up is as follows: 486DX, 8 Mb of RAM, clock speed 25MHz or 10MHz, DOS 5 Sound Blaster Pro installed, Gravis joystick with control card.

But when I run X-Wing after installation, although I get the full playing capacity, I don't get any sound. I followed US Gold's instructions to make a boot disk, which has only Command.Com on it and I now run from this. But whilst I get sound, I do not get digitised speech and can only play the first few missions of the X-Wing craft – if I try mission five the system tells me, "Error not enough memory." This is because I have no expanded/extended memory available using the boot disk. I have tried putting onto the boot disk a basic Config.sys and Autoexec.bat, but doing this simply brings no sound at all. I have also tried to change the setting of my sound card IRQ from 7 to 5, but the problem still occurs the same way.

After contacting US Gold and the X-Wing technical support line, which both now seem to be permanently engaged, I am asking you or any of your readers for some rather urgent help before I resort to writing to all PC magazines telling them of the enormous amount of help one gets from a company after spending nearly £50 on their product.

Zolly Littlechild
Hertfordshire

A *I agree that the current situation with support for games is a problem. The trouble is that the PC is a bit of an awkward case when it comes to optimisation. This situation should get easier as the games writers get the hang of what constitutes a typical PC. The trouble is that they either write programs that need large amounts of conventional memory or they write programs that need to take over the whole machine. Neither approach is a necessary consequence of the technology and really it just indicates how ignorant they are of the way that the PC is built.*

In short – it is perfectly possible to write a game that doesn't need

excessive amounts of conventional memory and which can live with a machine almost no matter how it is configured.

Now back to your specific problem The trouble is that X-Wing needs a lot of conventional memory and it uses expanded memory. If you start it off from a clean boot disk – one that only has Command.com on it – then there is enough conventional memory, but because an expanded memory driver isn't being loaded there is no expanded memory at all. If you try to put this to rights by loading an expanded memory driver, such as EMM386.EXE, then the amount of conventional memory that is available goes down because the driver needs some memory to load – a really good catch 22.

The solution is to use a configuration that optimises memory in a slightly more sophisticated way. You need to use high and upper memory to shift drivers and other stuff out of the way. If you had MS-DOS 6 then I would suggest using MemMaker – as this automatically optimises memory use. As you are using MS-DOS 5 then you will have to do it manually. The best way is to proceed step by step. Try the following Config.sys:

```
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\
EMM386.EXE 1024
DOS=HIGH
```

This should provide your machine with 1Mb of expanded RAM and clear 64K of conventional memory by moving MS-DOS into the high memory area. As this is more conventional memory and more expanded memory than a clean boot disk provides, everything should now be OK. It is possible to clear more conventional memory by moving drivers into upper memory, but this is where things become difficult and time consuming – take a look at the MS-DOS 5 manual pages 313 to 332.

VESA bus – is better?

Q Since the purchase of my first system in 1991 (an XT that I thought was state of the art) I have – finances and wife permitting – upgraded my present system which consists of a VESA Local Bus 33DX 486, the motherboard of which has a 256K cache. This is the bit that I find confusing. I would say in my own humble opinion that I have a fair idea about memory and prior to DOS 6 was quite happy to tinker with the Autoexec.bat and Config.sys files to try and get that extra couple of kilobytes of memory freed up for both games and other applications. MemMaker in DOS 6 seems to do a good job of this but neither the manual or any other books I have found really explain what the cache on the motherboard actually does. Can you explain? Do I still need to have the DOS 6 software cache (SmartDrv) loaded?

Also in my recent upgrades I have acquired a Cirrus Logic Vesa local bus graphics card, which appears to really enhance the graphics, especially in Windows. The card has 1Mb of RAM fitted, could I increase this to 2MByte and if so would it make much difference? If yes where would I obtain the extra 1Mb and how much would I expect to pay for it? Whilst on the subject of local bus –what difference would changing the I/O card have at present for one that uses the local bus slot?

Paul F Boyle
London

A *Yes, you do need the cache on the motherboard and yes you do still need SmartDrv as they do slightly different things. A cache is essentially a buffer between a slow memory system and a fast memory system. SmartDrv is a disk cache – that is it buffers the slow disk memory and the fast main memory. The cache RAM on the motherboard however is a main memory cache and it acts as a buffer between the relatively slow main RAM and the very fast, ie, 33MHz processor. The processor reads and writes to the cache and the cache deals with the main RAM at its slower pace. In other words, the 256K of cache on the motherboard helps the processor to go faster and the main memory that you allow SmartDrv to use makes the disk appear to go faster.*

As to the Cirrus logic VL bus graphics card memory upgrade – the answer is that it depends on the exact make of the card. Adding extra memory will allow the card to work at even higher colour resolution at the highest spatial resolutions of 1024x768 and 1024x1024. With only 1Mb fitted these high resolutions are restricted, if that's the right word, to 256 and 16 colours respectively. With 2Mb of memory this goes up to 65536 and 256 colours. Is this worth it? Personally I don't think so as 256 colours at 1024x768 is good enough for most applications and working with more colours will slow things down by about a factor of two.

If you do decide to go ahead then you need to get hold of the correct memory chips and I can't tell you what these are because it depends on the exact make of video board – have a look in the manual or on the board itself.

Finally, should you change the I/O card for a VESA bus version? The answer is only if you are using an IDE drive and the IDE controller is part of the I/O card. Parallel, serial and games ports are so slow that there is no point in offering them the higher speed of a VESA bus – they simply couldn't use it. However an IDE drive almost certainly can and so a combined IDE/parallel/serial/games VESA bus card is a good investment.

Q&A UPDATE

One of the most difficult questions I am often asked is "Should I buy a PC now or wait?" It is a difficult question, because the answer is always that you will get a better deal if you wait. In practice though, what you have to do is get the best deal at the time you want the PC. Then, even if things do suddenly change, you at least have the knowledge that you did the best you could. Even so, there is always the nagging doubt in the back of the mind that the change might be so huge that the new machine will be obsolete in a few weeks.

Indeed, there is a shift in the market that is about to happen very soon. Intel, the main manufacturer of the 486 processors used in the PC, is seriously worried about a new range of competitors. At one level other companies are starting to produce viable alternatives to Intel-made 486s and at another the Pentium, Intel's top of the range, is being challenged by the Power PC. The Power PC is based on a completely different processor and it isn't, despite its name, an IBM PC clone. What makes this unlikely family of machines a threat is that by some software magic it can run MS-DOS and Windows programs at about the same speed as a fast 486.

How can this be a challenge to the Pentium? The simple answer is that programs written to operate on the Power PC in 'native' mode go a lot faster than old PC applications. That is, it has the potential to be better while still allowing you to run your old software.

At the moment the Power PC isn't a real threat to the dominance of the Intel-based PC but in a year or so the situation may be very different. What is important now is that Intel is changing its pricing and production to meet the threat before it arrives, and this means a shake up. For example, the 486DX2-66 processor price has just been cut from $463 to $360 and it is very likely to fall further. This means processing power is about to become cheaper.

Put simply, what is almost certain to happen as a result is that the range of models on offer are about to take a jump in power for a given price. At the moment the 'entry level', lowest cost, machine is based on a 486SX-25. This is likely to change in the very near future to a 486SX2-50 or a 486DX-33. It is only recently that the 486DX-33 was considered top of the range and at the moment it is one step up from 'entry level.' This slot will soon be occupied by the 486DX2-66 which is currently top of the 486 family. Its current position will be filled by the new DX-4 (which is a clock tripled not quadrupled processor!). Finally the 'around £1500' slot will be filled by Pentium based machines – which will lose their 'good but pricey' image.

In a few months I would expect to see the standard range of machines on offer to be – 486DX2-66 as entry level, DX-4 as something a bit better and a Pentium system as the machine you would really like. This means that the 486SX-25 is about to fall off the end and become extinct, and the 486DX-33 will do the same soon after.

You can now buy a reasonable 486SX-25 motherboard for £99 or less – the price that a 386SX motherboard used to be! So if you are in the market for an upgrade, now is the time to buy. After all there is still at least a couple of years usability in a 486SX-25.

■ Mike James

EveshamMicros ● CALL US NOW FOR IMMEDIATE SERVICE ON (0386) 765500 ● EveshamMicros ● CALL US NOW FOR IMMEDIATE SERVICE ON (0386) 765500 ●

MULTIMEDIA SOLUTIONS

CD-ROM SOFTWARE

7th Guest	£34.00+VAT	Microsoft Bookshelf	£69.00+VAT
Alone in the Dark 2	£30.00+VAT	Mozart Multimedia	£35.00+VAT
Beneath a Steel Sky	£30.00+VAT	Musical Instruments	£35.00+VAT
Cinemania '94	£36.00+VAT	Quantum Gate	£29.50+VAT
Corel Photo CD Access	£15.00+VAT	Rebel Assault	£31.50+VAT
Critical Path	£29.50+VAT	Return to Zork	£31.50+VAT
Day of the Tentacle	£31.50+VAT	Sam & Max	£31.50+VAT
MS Dinosaurs	£36.00+VAT	Sherlock Holmes 3	£31.50+VAT
Encarta 1994	£69.00+VAT	Sim City	£31.50+VAT
Golf	£29.50+VAT	Star Trek 2	£31.50+VAT
Guinness Book of Records	£37.50+VAT	MS Stravinsky	£35.00+VAT
JFK Assasination	£29.50+VAT	T.F.X.	£29.50+VAT
Mavis Beacon MPC version	£32.00+VAT	The Animals	£35.00+VAT
Mega Rock, Rap & Roll	£49.00+VAT	World Atlas	£49.00+VAT
Microsoft Art Gallery	£35.00+VAT		

Special Offer! – The following titles are available with any purchase of a CD-ROM drive, Sound card or our special bundles (see left). Please note that they are not full retail packs.

7th Guest	£25.00+VAT	Matinee	£15.00+VAT
Animals of San Diego Zoo	£15.00+VAT	Microsoft Works 3	£39.00+VAT
Chessmaster 3000	£15.00+VAT	Rebel Assault	£25.00+VAT
Corel Draw 3	£55.00+VAT	Return to Zork	£22.50+VAT
Corel Photo CD Access	£15.00+VAT	Secrets of Luftwaffe	£15.00+VAT
Software Toolworks Grolier Encyclopaedia 1994	£39.00+VAT	Sherlock Holmes	£15.00+VAT
Guinness Book of Records	£19.00+VAT	World Atlas	£15.00+VAT
Kodak PhotoEdge	£49.00+VAT	'Challenge Pack' 9 Games	£19.00+VAT

ANALOG EDGE £15.00+VAT

Suncom's analogue joysticks always set new standards in quality and performance. The *Edge* represents terrific value, incorporating *Injected Resistor Technology*, resulting in a product with unmatched simplicity and breakdown resistance. Features two-way switchable fire buttons, and Aircraft-style grip, with game optimised ergonomics. Requires game port.

FX2000 Joystick £21.00+VAT

The latest in the highly acclaimed range of Suncom joysticks brings further advances in comfort and control. The pistol grip can be easily rotated to give perfect orientation for left or right handed use, while the unique "V" designed top fire button allows lightning fast response. Switchable autofire, throttle control and suction feet complete the package. Requires game port.

COMMAND CONTROL £17.00+VAT

TWO-HANDED HIGH DEFINITION CURSOR CONTROL – IDEAL FOR ALL GAMES!

New from Suncom Technologies is this exciting **Command Control**. Giving full two handed cursor control it adds a new dimension to playing action games. Two fire buttons and autofire buttons at your fingertips maximize your scoring. Requires game port.

FLIGHTSTICK £32.00+VAT

THE FLIGHTSTICK IS CONSISTENTLY REVIEWED AS THE BEST QUALITY JOYSTICK IN ITS CLASS

Test fly a Flightstick with your favourite simulator and you will know the meaning of *control*. Whether you're a novice or experienced combat pilot, flying skills will be improved and enemy kill rate will increase. Excellent construction - looks and feels like the real thing! Includes throttle control and 7ft long connection cable. Requires game port.

FLIGHTSTICK PRO £59.00+VAT

THE ULTIMATE COMBAT STICK FOR COMPUTER PILOTS!

The new Flightstick PRO from CH Products offers the ultimate in fingertip control. It has four fire buttons, and a four-way switch which allows you to control weapons, radar and viewing functions on more advanced software – all without taking your hand from the stick! With its top quality sturdy construction it is designed to last for years. Includes driver software and long connection cable. Requires game port.

FLIGHT YOKE £49.00+VAT

Introducing G-FORCE from Suncom, designed for realistic control of all simulation software.

The G-FORCE functions as a full size aviation yoke with pitch and roll control, and twin fire buttons at your thumb-tips. For driving games, simply engage the column lock and G-FORCE functions as a stable steering wheel. The base plate has large suction feet and table edge clamps. Requires game port.

VIRTUAL PILOT £68.00+VAT

THE MOST REALISTIC FLIGHT YOKE AVAILABLE FOR THE PC

Enjoy the ultimate realism in all flight simulation games with the **Virtual Pilot**, made in the USA by CH Products. Looking just like a real airplane yoke, it is designed for the ultimate precision, giving you superb control. Also ideal for driving games. Clamps to table top. Requires game port.

GAME PORT CARD £10.00+VAT

Game port card for any of these joysticks/yokes. Works with any clock speed up to 33Mhz.

PANASONIC CD-ROM DRIVE

CR-562 Double Speed, multi-session drive for only £135.00+VAT

- Double speed 300kb/sec data transfer rate
- Multi-session mechanism - compatible with Kodak Photo CD Standard
- Motorised loading tray – no need for a caddy
- High speed 320ms access
- MPC compatible
- Mounts in 5.25" drive bay
- Output from audio CDs via headphone socket
- Includes cables and driver software
- Requires SoundBlaster PRO compatible card

1A £189.00+VAT – CR-562 bundled with SoundBlaster PRO card

1B £219.00+VAT – CR-562 bundled with SoundBlaster 16 card

1C £239.00+VAT – CR-562 bundled with SoundBlaster 16 ASP card

1D £209.00+VAT – CR-562 bundled with Diamond Sonic Sound LX

COMPLETE MULTIMEDIA SOLUTIONS

- Panasonic CR-562 CD-ROM drive
- Choice of SoundBlaster sound cards
- Zy-Fi active speakers
- CD-ROM software:

'SOFTWARE TOOLWORKS GROLIER ENCYCLOPAEDIA 94' *fully featured encyclopaedia* with 33000 researched articles, plus dazzling array of graphics, sound, video sequences and animation. PHOTO-CD software, 'WORLD ATLAS 4' (latest version); 'CHALLENGE PACK' featuring 'F-29 Retaliator', 'The Chessmaster 2100', 'RoboCop 3D', 'Paperboy 2' and 5 others.

2A £259.00+VAT – Multimedia kit with SoundBlaster PRO card

2B £289.00+VAT – Multimedia kit with SoundBlaster 16 card

2C £309.00+VAT – Multimedia kit with SoundBlaster 16 ASP card

2D £279.00+VAT – Multimedia kit with Diamond Sonic Sound LX

SONY CD-ROM DRIVE & BUNDLES

- Double speed 300kb/sec data transfer rate
- Multi-session mechanism - compatible with Kodak Photo CD
- Mounts in 5.25" drive bay
- MPC compatible
- Output from audio CDs via headphone socket
- Includes cables and driver software
- Requires sound card with Sony CD-ROM interface or AT-bus driver card

PC Magazine (US) February 22, 1994 – EDITORS' CHOICE

4A £129.00+VAT – Sony CDU33A CD-ROM drive

4B £139.00+VAT – Sony CD-ROM drive with AT-bus driver card

4E £159.00+VAT – Sony CD-ROM drive with Soundplus PRO sound card (see right)

4C £189.00+VAT – Sony CD-ROM drive with multimedia kit as left featuring Soundplus PRO sound card (see right)

4F £199.00+VAT – Sony CD-ROM drive with Diamond Sonic Sound LX card

4D £229.00+VAT – Sony CD-ROM drive with multimedia kit as left featuring Diamond Sonic Sound LX card

4G £229.00+VAT – Sony CD-ROM drive with Soundplus PRO sound card, Zy-Fi active speaker system and CD-ROM software as pack 2x (see left)

4H £269.00+VAT – Sony CD-ROM drive with Diamond Sonic Sound LX card, Zy-Fi active speaker system and CD-ROM software as pack 2x (see left)

MULTIMEDIA BUNDLES

- Sony CDU33A double speed CD-ROM drive
- Full multimedia kit featuring:
  - Choice of sound card
  - Soundplus speaker system
  - Microphone and Earphones
  - CD-ROM software:

PHOTO-CD software; 'WORLD ATLAS 4' (latest version); 'F-14 Tomcat', 'Hammer Boy' and 'Flashy Cars' games.

Please note that bundled versions of sound cards and software are not full retail packs. When ordering please quote pack number.

CREATIVE

SOUNDBLASTER CARDS

SoundBlaster 2 Deluxe card – includes "Lemmings" and "Indianapolis 500" games	£47.00+VAT
SoundBlaster PRO Basic card	£62.00+VAT
SoundBlaster PRO Deluxe card – includes Software Toolworks Multimedia Encyclopaedia CD plus "Lemmings" and "Indianapolis 500" games	£76.00+VAT
SoundBlaster 16 Basic card – with Panasonic only CD-ROM interface	£89.00+VAT
SoundBlaster 16 MCD card	£145.00+VAT
SoundBlaster 16 ASP MCD card	£175.00+VAT
MCD cards have a triple CD-ROM interface for Panasonic/Sony/Mitsumi drives	
SoundBlaster 16 SCSI card	£169.00+VAT
SoundBlaster 16 ASP SCSI card	£199.00+VAT
All SoundBlaster 16 cards above (except the 16 Basic) include the Software Toolworks Multimedia Encyclopaedia CD and a microphone	
WaveBlaster	£129.00+VAT
MidiBlaster	£179.00+VAT

NEW INTEGRATED DESIGN BRINGS CD QUALITY AUDIO WITH TRUE INSTRUMENT SOUNDS TO YOUR PC:

SoundBlaster AWE32 card

Latest innovation from Creative Labs combines SoundBlaster 16 ASP MCD with WaveBlaster, and delivers the next giant leap in sound card technology... Advanced WaveEffects Synthesis.

- 16-bit CD quality stereo recording/playback
- Orchestral 32-voice polyphony with Advanced WaveEffects Synthesis
- Programmable AWE32 Effects engine: Reverb and Chorus, QSound
- On-board ROM provides 4Mb of PCM samples
- Advanced Signal Processor chip reduces CPU overhead by up to 60%.
- SoundFont™ support via downloadable sound samples
- 4Mbit RAM on-board, upgradeable to 28Mbytes
- 20-voice OPL3 FM music synthesizer
- Microphone included

ONLY £199.00+VAT

VIDEO PRODUCTS

VideoBlaster SE The ultimate in video versatility for multimedia computing for only	£219.00+VAT
TV Coder VGA to Video encoder. Transfer your PC creations and manipulations back to video	£129.00+VAT

DIAMOND SONIC SOUND LX

Computer Systems, Inc.

The latest product from the masters of Video Technology is a fully-featured sound card

- True 16-bit OPL-3 FM sound card
- SoundBlaster PRO compatible
- MS Windows sound system compatible
- Jumperless 'Plug and Play' design
- Triple Panasonic/Sony/Mitsumi CD-ROM interfaces
- Free software: Midisoft Recording Session and Animotion MusicRack
- Joystick port with full MIDI support
- On-board 4W/channel amplifier

Only £79.00+VAT

SOUNDPLUS SOUND CARD

Featuring full SoundBlaster, AdLib and Windows Sound System compatibility, this card adds a new dimension to PC games and entertainment software. It incorporates an 11-voice FM synthesizer for realistic, good quality output. Also has on-board power amplifier with volume control.

Only £39.00+VAT

SOUNDPLUS PRO SOUND CARD

SoundBlaster PRO compatible (stereo) version of Soundplus card with triple CD-ROM interface for Panasonic/Sony/Mitsumi drives, *plus* 2 speakers, microphone and earphone system..... Only £49.00+VAT

SOUNDWAVE 32

ONLY £149.00+VAT

PC Magazine (US) February 1994 – EDITORS' CHOICE

Computer Shopper January 1994

SoundWave card with CD-ROM drive	£299.00+VAT
GameWave card	£109.00+VAT
CDS-3110 CD-ROM drive	£155.00+VAT

ORCHID

VIDIOLA DIGITAL VIDEO SOLUTION

- Capture real-time video to disk from VCR, Video camera or TV tuner at 30fps
- Full motion display during capture
- Unique 'SuperZoom' full screen, full motion video playback
- Includes *Adobe Premier* professional video editing package
- Includes *Asymedia PE* software for integrating text and graphic screens into presentations

ONLY £285.00+VAT

Please note that the bundled software does not feature full retail packaging.

COMPLETE PC SOUND PACKS

QS-123 Joystick
Ergonomic design with auto-centring, 2 fire buttons and autofire.

Soundplus Speakers
Full range shielded speakers.

Monkey Island 2
Renowned adventure game with fantastic sound and graphics.

"Monkey Island 2 Le Chuck's Revenge" is a registered trademark of Lucasfilm Games

3A £49.00+VAT – Soundplus sound card with QS-123 joystick and Soundplus speaker system (see left)

3B £59.00+VAT – Soundplus sound card with QS-123 joystick, Zy-Fi active speaker system and Monkey Island 2

3C £89.00+VAT – Pack 3a with genuine SoundBlaster PRO card

3D £119.00+VAT – Pack 3a with genuine SoundBlaster 16 card

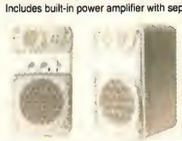
3E £109.00+VAT – Pack 3a with Diamond Sonic Sound LX

3F £139.00+VAT – Pack 3a with genuine SoundBlaster 16 ASP card

ZY-FI STEREO SPEAKERS

ACTIVE POWER AMPLIFIED STEREO SPEAKERS – IDEAL FOR ALL SOUND CARDS AND MULTIMEDIA SYSTEMS!

Includes built-in power amplifier with separate L/R volume controls and stereo jack/phono inputs.



Personal Computer World – "In use the speakers sounded infinitely better than the cheap unbadged speakers bundled with some sound cards..." Personal Computer World, January 1994

Only £29.00+VAT

ZY-FI PRO SPEAKERS

The latest addition to the serious multi-media system must be our new 15W/channel ZY-FI PRO Active speaker system. Features built-in power amplifier with volume control and bass/treble controls. Speaker size 14x20x13cm.

Personal Computer World – "The Pros passed all tests with flying colours... ...ideal for the multimedia or games setup...A nice pair." Personal Computer World, January 1994

Only £49.00+VAT

MICE & TRACKBALL

Truemouse 3 button serial or PS/2 (state which) ..... £19.00+VAT

Trackball ..... £30.00+VAT

Handy mouse Total one handed cursor control from this hand held unit – perfect for all portable users ..... £260.00+VAT

EveshamMicros

Evesham Micros Ltd., Dept PCRE, Unit 9, St Richards Road, Evesham, Worcs. WR11 6TD

Call us now on 0386 765500

TELESALES OPENING TIMES: 9am – 7pm Monday-Friday, 9am – 5.30pm Saturday

Mail Order Fax: 0386 765354

RETAIL SHOWROOMS

Normal Opening times: Monday-Saturday, 9.00-5.30
Late Night Opening Until 7pm Wednesday-Friday

EVESHAM: 0386 765500 – BIRMINGHAM: 021 446 5050
CAMBRIDGE: 0223 323898 – MILTON KEYNES: 0908 230898

– DELIVERY –

Same day despatch whenever possible

Delivery on items up to £150.00 ex VAT value is free of charge. All items above this value are shipped by insured Express Courier service at £6.50 + VAT per order – normally next working day after despatch (UK mainland only, others please call).

Please note that 5 banking days must be allowed for cheque clearance. Immediate clearance on Bank Drafts and Building Society cheques.

Government, Education & PLC purchase orders welcome.

1 YEAR WARRANTY ON ALL GOODS

Credit card orders: We do not charge the card until the goods are despatched.

All goods subject to availability. Details correct at time of going to press Prices and specifications subject to change without notice. E & O E

EveshamMicros ● CALL US NOW FOR IMMEDIATE SERVICE ON (0386) 765500 ● EveshamMicros ● CALL US NOW FOR IMMEDIATE SERVICE ON (0386) 765500 ●

Letters

PC Review welcomes your opinions on just about any PC-related subject. We reserve the right to edit your letters, and we'll also assume correspondence is for publication unless you state otherwise.

Putting the record straight

I am sure that I will not be alone in pointing this out, but you do Print Shop Deluxe an injustice when you declare, on page 41 of the April issue, that "there aren't any facilities for importing graphics ..."

In the PSDL that I have there definitely are. All you have to do is select Add New Elements, followed by Imported Graphics, and you are given the opportunity to support EPS, PCX or TIFF files from whichever drive or directory takes your fancy.

These can be moved, scaled, stretched, etc, as you like. Perhaps a correction may be in order?

Mr S J Lee
Huntingdon

Consider us corrected, Mr Lee.

Infection fears

I read in a newspaper that viruses can't copy themselves on to write-protected disks.

But if viruses are contained on write-protected disks, can copy-protected disks copy the viruses on to the hard disk?

I recently purchased Sam and Max for my son and a few days later my computer was overrun by the Tequila virus. I got an expert to get rid of the virus, but as I didn't make back-up copies of the game, I fear the original copy is infected. I'd like to know if I switch the little black tab, will the disk be protected from copying the virus back on to the hard disk?

Dr John Kelly
Donnybrook, Dublin

No. Write-protecting a disk only protects it from having its contents altered. You can read data from a write-protected disk and you can copy files from a write-protected disk to another disk, but you can't put a new file on to the disk, rename the files, or delete them, because that would alter the contents of the disk.

How did you find out that you had the virus in the first place? If you have access to a virus checker, you can run the virus checker and ask it to check the a: drive rather than the hard disk, and run the suspect floppies through that. See this month's Technical Help pages for a bit more on viruses and virus prevention.

Software prize WINNER

CD-ROM con?

What happened to bigger, better and more playable games on CD-ROM?

Impressed as I am by the advances in technology which bring us film scenes in the middle of games, it seems that the lastability of games has gone out of the window as a consequence.

Just before Christmas I bought a new £400 CD-ROM drive, thinking that the games I bought would be far better than their disk counterparts. OK, Rebel Assault was awe-inspiring, but my interest lasted about a month – not long at all. The same happened with Dracula Unleashed – I was fed up with it in about two weeks! It was pretty, but lacked serious gameplay.

Yet the opposite happened with Doom. It came on four floppy disks. I installed it about three weeks ago and am now hooked. Even without full motion video and non-stop speech, it has more playability than its 300Mb CD-ROM competitors.

And can you imagine Frontier: Elite II on CD-ROM, texture mapped, Gouraud shaded? It would be the ultimate in graphics and playability.

It seems to me Rebel Assault is just an excuse for LucasArts to sell us a movie we have all seen a hundred times before and call it interactive. If any games developers are reading this – please, no more 'interactive movies'. We want gameplay.

John Warburton
Bristol, Avon

SimCity sadness

Your recent SimCity demo is not, to my mind, a very good example of marketing. What I mean is Maxis does not seem to have assigned to the demo a reasonable period in which to acquaint yourself with the game.

The 20 minutes given seems an arbitrary figure. I get the impression from the magazine that you were playing the real thing to check the playability of the demo. Please correct me if I am wrong. *(You're wrong. Ed.)*

I think the demo idea is great, having purchased Doom and Alone in the Dark 2 as a result of the demo given by you. However, I am sorry to say the SimCity demo did nothing for me. The time was too short and many of the facilities removed.

I ended up very frustrated, chucked out the game just as something may have been developing, and realised I may have attained more satisfaction building a sandcastle.

As a result SimCity is going to the bottom of my playlist, as I was infuriated by the demo. I am sure it's a great game having read your reviews. Am I being over-critical?

Chong Looi
Market Harborough

"What happened to bigger and more playable games on CD-ROM?"

Learning difficulties

I really want to know why it is that some games companies don't learn from their mistakes and make use of their existing good ideas as well as other people's opinions?

Take MicroPrôse, for example. Now MicroProse produced Master of Orion, which was a challenging strategy game, but lacked something in the graphics and excitement department. Many people said so. Then MicroProse gave us Starlord, which when I heard about it, made me assume that MicroProse would have listened to what had been said about Orion and obviously solved the problems of the first adventure. Well, the major problem with Starlord was that most of the things that had been good about Master of Orion seemed to have been thrown out, leaving behind quite a good combat simulator, but hardly anything else.

But then take another games company, Infogrames. Infogrames must have taken notice of reviews of Alone in the Dark and ironed out the prob-

lems in the sequel, Alone in the Dark 2, because it made the follow-up 50 times more difficult than the original.

If only companies would listen to what people thought of their games and would try to address problems, rather than going off on a new track after every new game. Games might then start to get 10s and you'll have to recalibrate your marking system.

John Burgato
Bristol, Avon

Was I cheated?

I am one of many readers who own a 286. Currently all your cover disks do not run on 286s. This is beginning to annoy me. The reviews are also neglecting us – there are plenty of new 286 games on the market.

I can understand in Issue 30 why you need a 386 to run SimCity. But why a 386 to run the cheats program? For the past six months I have laboured over Monkey Island 1 and the first chance I get to complete it I can't because of the program. The idea of the cheats only being able to run on a 386 is madness.

David Ashford
Onchan, Isle of Man

You don't need a 386 to run the game solutions. Sorry for the confusion. Just take your cover disk, put it in your disk drive, log on to it, and type PCRTIPS to view the solution files.

Simply the best?

We have American football, ice hockey, golf, motor racing on the PC. But where is soccer? Apparently, Sensible Soccer has pleased the majority looking for a decent football game on the PC. But is this game the best we deserve?

Compare the graphics of Sensible Soccer to Unnecessary Roughness or NHL Hockey. Both of these require scrolling in the same way a football game would but the the graphics are years apart in quality.

Why has it become the norm to view soccer games from overhead? The only way you would see a real game from this angle would be from an airship. This makes the game totally unrealistic, predictable to play and, therefore, quickly boring.

I would like to take you back a few years to the days of the 48K ZX Spectrum and remind you of Match Day and Emlyn Hughes' International Football. These were games of very poor graphics compared with Sensible Soccer but in terms of playability and general fun they were outstanding in their day.

I fail to see why it is so difficult to produce graphics as good as NHL Hockey with a side on view and make a perfectly good football game.

Far be it for me to tell the marketing guys of software companies how to sell games, but I think soccer is just a bit more popular in this country than American football.

I hope the forthcoming football games for the World Cup will shut me up but if they are of the Sensible Soccer and Kick Off mode, I beg someone to start writing a football game for the European Championships in 1996. After all it does not have to be anything staggering to beat Sensible Soccer.

I hope the person who reviewed Sensible Soccer for PC Review has played it a bit more and realised it is garbage.

Nick Clemons
Coventry

"SimCity is going to the bottom of my playlist"

Eye test

I got your latest issue through the post the other day and I was reading it in bed last night. About this new look: I'm pleased that you have managed to fit more into the magazine but it's obvious that you did it by reducing the size of your font.

For the first time I can remember I actually had trouble reading a magazine – especially those white on purple boxes. It's not all your fault because I did have a long day staring at the screen and I should go to the optician really, so it's just a comment rather than a complaint.

Anyway, it's still a great magazine with best reviews around.

Mark Dobie
Via CIX

You weren't the only one to make this point, Mark, so I hope this month's larger type is easier on your eyes.

Stylish

Love the new look PC Review, very stylish.

Terry Lee
Via CIX

Thanks for the CD ...

The content of the CD-ROM is excellent. Even the demo programs are different! The Gravis UltraSound update files were absolutely wonderful. As the article said, these file are available only to the fortunate few who have modems. Prior to your free CD-ROM, I was going to do without, or have to spend hundreds of pounds to gain access to these files.

COMPETITION WINNERS

Doom competition (Issue 28)

Answers: a) ID Software wrote Doom; b) Transend Services distributes Doom in the UK.
Winners: first prize of Doom, Blake Stone 3D and Duke Nukem 2 to Darren Steddy, of Caterham, Surrey; second prizes of Doom to Jon North, of Colchester, Essex, John Ford, of Gloucester, A Birch, of Basildon, Essex; third prizes of Blake Stone 3D to Vicky Scopes, of Sevenoaks, Kent, M J Larsen, of Whitley Bay, Tyne and Wear, Jim Grimwood, of Hatfield, Herts; fourth prizes of Duke Nukem 2 to Chris Lane, of Orpington, Kent, Mr R E Green, of Blyth, Northumberland, and Silas Jewitt, of Totterdown, Bristol.

Amstrad 9486 competition (Issue 29)

Answers: 1) Amstrad's chairman Alan Sugar is also chairman of Tottenham Hotspur; 2) Rebel Assault is bundled with the new Amstrad 9486 Multimedia PC; 3) Will Wright is the brains behind the original SimCity.
Winners: first prize of an Amstrad 9486 Multimedia PC to Mr J D Sawyer; second prizes of SimCity 2000 plus a Lego kit to Andrew Bridge, of Victoria Park, Manchester; David Campbell, of Cowbridge, South Glamorgan; Mr J Hurst, of Humberston, Grimsby; Peter Tobins, of Hendon, London NW4, and G Milne, of Aberdeen.

Premier Manager (Issue 29)

Answers: 1) You start Premier Manager in the Vauxhall Conference; 2) The 1994 World Cup is being held in the USA; 3) There are 22 teams in the Premier League.
Winners: first prize of a Matsui VX2700 video recorder plus a video of Blackburn Rovers' season's highlights to Sebastian Orain, of Blackpool, Lancs; runners-up prizes of Premier Manager 2 to John Sullivan, of Poole, Dorset, and Teresa Staniewicz of Coventry; runners-up prizes of T-shirts to A Porretta, of Southampton; James A F Hislop, of Glen Esk, Angus; Mr S P Scarborough, of Wisbech, Cambs; Greg Aldridge, of Peterborough, and Gary McDougall, of Glasgow

US Gold ski jacket (Issue 29)

Answer: Heli-skiing is not an Olympic sport.
Winners: three ski jackets to Kevin Moseley, Pinner, Charles Kirk, Clifton, and Sophie Roberts, Banbury, Oxfordshire.

CyberRace competition (Issue 29)

Answers: 1) Dark Seed was Cyberdreams' previous game; 2) Harrison Ford starred in Blade Runner; 3) CyberRace uses Voxel Spacing.
Winners: first prize of the Syd Mead video collection plus CyberRace to Andrew Jakins, of Grimsby, S Humberside; second prize of Blade Runner on VHS video and CyberRace on PC to A McCartney, of Blackpool; third prize of CyberRace to Alex Moore; runners-up prizes of T-shirts to Laurie White, of Kingham, Oxon; Stephen Higgins, of Sale, Cheshire, and Mr T P Gamble, of Basingstoke, Hants.

PC Review Recommended (Issue 29)

Doom: Mel Gibson used a chainsaw in Mad Max: Beyond Thunderdome. Winners are M Reed, of Kenley, Surrey; Davinder Sohi, of Gravesend, Kent; Ian Dykes, of High Wycombe, Bucks; Brian Reed, of Swindon; and Greg Aldridge, of Peterborough.
SimCity 2000: Two other Sim games? Take your pick from SimEarth, SimLife, SimFarm, etc. Winners are Mr B Webb, of Sywell, Northampton; Mr Andy Edge, of Dagenham, Essex; Mr K N Murche, of Shepperton, Middlesex; P Page, of Yate, Bristol; and Andrew Gardner, of Launceston. Gabriel Knight: Mosley is the detective who is also Gabriel's best friend. Winners are Andrew Allen, of Coatbridge, Lanarkshire; N Eaton, of Coventry; Andrew Munday, of High Wycombe; Roger Boulton, of The Wirral; and John Edwards, Basingstoke.

Oh yes, and the rest of the magazine is excellent, too. Just enough news, reviews and technical info/help. Any criticisms? Yes, you don't have a letter of the month, or any prizes or incentives.

Garry Butterworth
Blackpool

We do have a letter of the month. Ironically, last month, it went to someone who criticised us because he thought we were beastly about the Gravis UltraSound.

... and no thanks

I have purchased PC Review (good mag) with CD-ROM (dreadful). Demos should run straight from CD-ROM and not require loading on to a hard disk and 'unzipping'. I had to make a special boot disk, presumably because of the excess memory requirements. The software was sub-standard – except for Neopaint – although I concede that this is the main point of the exercise, ie, to determine what is the software that appeals.

The biggest grumble is ease of use. It should just load and go.

John Ellis
Exel Computer Systems

Quite simply, many – if not most – commercial CD-ROM games require a number of files to be installed to the hard disk.

This is true of the full versions of Battle Isle 2 CD, Star Trek CD and the Knowledge Adventure range. The programmers make the games this way and I can't see how you can expect the demos to be different.

We also wanted to make a clear distinction between true CD demos and floppy disk based demos and programs – the zipping-up method is familiar to our readers, so why start confusing the issue now?

As regards memory requirements, the demos are again the same as the commercial releases.

If it were possible for us somehow to tailor the memory requirements of the many demos we run, so that they were identical and ran on every PC without any modification, we'd be able to sell the idea to Microsoft and co and retire on the proceeds.

Write to Letters, PC Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU, or contact us by e-mail: pcreview@CIX.compulink.co.uk

STAR TREK CORNER

Some of you may suspect that in running a quiz in the Star Trek competition we were involved in a cynical ploy to fill the letters pages with arcane and little-known gems of information about Spock's antecedents. Yes, a veritably bulging postbag was generated by the Star Trek questions, though plenty of you still managed to enter the competition. Frankly, we should have known that even mentioning T'Pau, except as an extremely dodgy mid-80s pop group, was a BIG mistake.

Pedantic corner

Hi and welcome to Pedantic Corner!

You have probably had hundreds of letters like this, but just in case, I have a few observations to make about your Star Trek compo in the April issue.

Question 2: None of the quoted answers (with, I suppose, the possible exception of Mrs Spock) are correct. I would guess you were expecting T'Pau to be the answer. In fact T'Pau was the Vulcan ruler seen in the episode Amok Time (played by Celia Lovsky), and Spock's mum's name was Amanda (Grayson). We meet her in the episode Journey to Babel, played by Jane Wyatt.

Question 3: Small point. DeForest Kelley rather than DeForest Kelly. (Yes. That's a *very* small point. Ed.)

Question 5: The Captain's Log is kept in the ship's computer and is accessible (by the Captain) from all over the ship, including the chair on the bridge.

Question 7: Hmmm ... Klingons also have battle cruisers.

Question 8: The Enterprise uses a matter/anti-matter reaction as a power source. Dilithium crystals simply help control that reaction. Huh ... simple GCSE physics. I mean, honestly ...

Question 10: Spock is science officer *and* first officer.

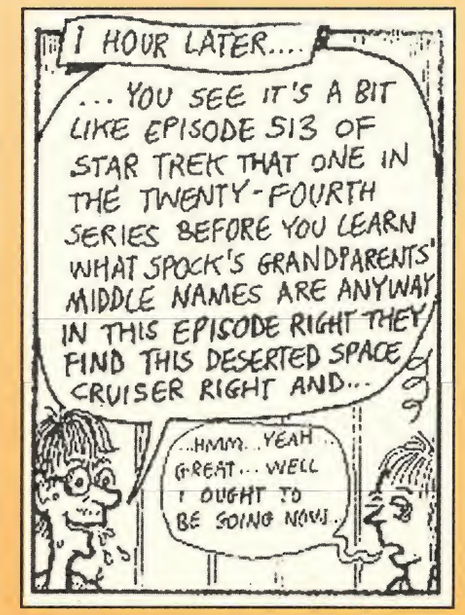
Sorry if this sounds a bit nit-picking, but there were some pretty big nits to pick! If you would like a more accurate Trek quiz compiling, please let me know. Live long and prosper.

Neil Harris
Canton, Cardiff

Trek on

Being a Star Trek fan I was delighted to see an opportunity to win the complete original series on video. However, there are two questions that puzzle me.

Firstly, in question 2, "What is the name of Spock's mum?", three possible answers are given as usual. Unfortunately none of the answers are correct.



Answer A is Cher. This is obviously a joke answer as seen in most questions. Answer B is T'Pau. She is a Vulcan and esteemed political figure and the only person to refuse a seat on the Federation Council, She was to conduct Spock's wedding to T'Ping that never happened. Since she is a Vulcan this automatically rules her out because Spock's mother is human.

Answer C is Mrs Spock. There never has been a Mrs Spock on Star Trek. If you are referring to T'Ping, Spock's betrothed, then she was never called this because he never married her

Spock's mother has only been called by name in one episode entitled Journey to Babel, written by the distinguished writer D C Fontana. In this episode she is referred to as Amanda by her husband and Spock's father Ambassador Sarek. She is also referred to as Mrs Sarek by both Captain Kirk and Dr McCoy. Therefore none of your suggested answers apply.

Secondly, Question 5, "Where do you find the Captain's log?" is again one where no right answer is given. This time answer C is the one that could not possibly apply.

The point here is that Kirk can make a log from anywhere as long as it is recorded. Indeed Kirk has recorded logs while in his chair and, in some episodes, also in the sickbay (The Corbomite Maneuver, Turnabout Intruder), and sometimes even on a planet (The City on the Edge of Forever, The Gamesters of Triskelion and others).

In Star Trek V: The Final Frontier he uses a specialised log recorder. As to where it is kept, this is never established during the series because there is never an episode in which they access a previous log.

The most likely place for it to be stored is Spock's library computer which gives access to just about everything. Starfleet Command will also have copies of logs as they are continually despatched to Starfleet.

As I have already mentioned, I am an avid Star Trek fan and feel compelled to write and point out these discrepancies, but I would also like to take this opportunity to thank you for including such a great competition in your magazine. It has been good fun completing it.

Fraser Dawson
Hynland, Glasgow

PS 'Maneuver' is the American spelling, which I assume is correct in the context of the TV programme. I have changed "making logs" to "record logs" to make it less open to scatological interpretation.

Illustration © House of Viz/John Brown Publishing

ADULT RANGE

TASTEFUL - TASTY SOFTWARE FOR THE OVER 18'S

PAGE 3 WOBBLEVISION II.....£15
BEACH BUMS (CHEEKY GIRLS).....£15
SWIM SUIT MAIDENS.....£10
STOCKING FILLERS.....£10
PAGE 7 FELLAS.....£10
ASIAN GIRLS.....£10
NEW 100 PAGE 3 GIRLS ON HD DISKS.....£30

GRAVIS ULTRASOUND COMPATIBLE SHAREWARE CATALOGUE
(NOT ADULT) - £2.50 (REFUNDABLE)
All products require 286, 386, 486 or pentium with SVGA, Mouse, Hard Disk, and are supplied on 3.5" High Density Disks.

FREE! 200 IMAGE CATALOGUE DISK WITH EVERY ORDER OF PAGE 3 WOBBLEVISION OR BEACH BUMS! - GET IT NOW! CHEQUES / POSTAL ORDERS PAYABLE TO -

SELECTIVE SHAREWARE 169 DALKEITH ROAD, DEPT PCP, EDINBURGH, EH16 5BY
Please note - We do not condone or supply illegal hard-core material. We only supply images depicting tasteful nudity.

MICROLAND BULLETIN BOARD SYSTEM

0891 990 505 To Download

0483 725 905 To View

Shareware to download at V32bis, V32, V22bis, V22, V23, & HST etc. 8 data bits, no parity.

INTERNET CONNECTED

Microland is now connected to the world's largest network. We now provide full global mail, news, software archive, and interactive services. Don't miss out, get connected and explore the world of Internet. Download from the biggest archives in the world. Services subject to availability.

Why wait for your software when you can download now direct to your computer. Microland offers high speed connections and most files are compressed to minimise the cost. Check it out on 0483 725 905 at normal call charges. So much shareware you are spoilt for choice.

Calls to 0891 990 505 charged at 39p per minute cheap rate, 49p per minute all other times.
Trevan Designs Ltd. PO Box 13. Aldershot, Hants. GU12 6YX.

UFO * BENEATH A STEEL SKY * T.F.X.
REBEL ASSAULT * GABRIEL KNIGHT
SIM CITY 2000 * STAR TREK 2
ALONE IN THE DARK 2
THESE TITLES (& 100's MORE) ONLY £4.95 EACH
!?!?!?

Premier Mail Order

Please send cheque/PO made out to Premier Mail Order. Access/Visa No. and expiry date to:

Dept PCR 32, 9-10 The Capricorn Centre, Cranes Farm Road Basildon Essex SS14 3JJ

Please state make and model of computer when ordering. P&P and VAT is included for all UK orders. Please add £2.00 for Europe and £3.50 for the Rest Of the World

Telephone orders: Mon-Fri 9am-7pm. Sat. & Sun 10am-4pm. ***TELEPHONE orders:*** *0268 271172. Facsimile orders: 0268 271173*

Next day service available add £4.00. Per Item We are open 364 days a year. "Some Titles May Not Be Released At The Time of Going To Press"

E&OE

7TH GUEST/ DUNE	CD ROM...29.99
7 Cities of Gold	26.99
10 Year CD	CD ROM...29.99
11TH HOUR - 7TH GUEST	49.99
1949 Pacific Air War	27.99
X1TH HOUR - 7TH GUEST 2	49.99
A320 Airbus (Edition Europa)	30.49
A320 Airbus (USA)	30.49
A Train	12.99
Aces Of The Deep	27.99
Aces of the Pacific	25.99
ACES OVER KOREA	26.99
Aces of the Pacific Expansion Disk	13.99
Aces Over Europe	26.99
Action Sport	19.99
Addiction	3.5" OR CD ROM...22.99
Air Combat Classics - (compilation)	27.99
Air Force Commander	22.99
Alien Breed	19.99
ALONE IN THE DARK 2	29.99
Ambermoon	22.99
American Gladiators	19.99
Archer Maclean's Pool	20.99
Armaeth	19.99
ATP	27.99
ATP +East & West USA Scenery	CD ROM...56.99
AWARD WINNERS 2	22.99
B17 Flying Fortress/Silent Service 2	CD ROM...29.99
Battle Isle 2	26.99
Battle Isle 2	CD ROM...29.99
Battles of Time	CD ROM...19.99
Battles Of Time	CD ROM...19.99
BattleToads	17.99
BENEATH A STEEL SKY	CD ROM...29.99
Beneath a Steel Sky	22.99
Beauty & The Beast	20.99
Big Sea	19.99
Bioforge	29.99
Blade of Destiny	27.99
Bloodnet	3.5"/CD ROM...29.99
Blues Brothers	CD ROM . 12.99
Body Blows	19.99
Breach II	26.99
Burning Rubber	19.99
Buzz	CD ROM...29.99
B WING MISSION DISK	13.99
Campaign 2	24.99
CANNON FODDER	27.99
Captive 2	22.99
Carriers A t War II	27.99
Castles II	23.99
Castles II	CD ROM...29.99
CHAMPIONSHIP MANAGER '93	19.99
Championship Manager '94 Season Disk	7.99
Championship Manager Definitive Edition	19.99
Championship Manager End of Season	11.99
Championship Manager Italia	19.99
Chaos Control	22.99
CHAOS ENGINE	19.99
CHESSMASTER 4000 (WINDOW)	22.99
Civilisation (Windows)	27.99
Civilisation (Dos)	26.99
Clash of Steel	25.99
Cohort 2	19.99
Colonel's Bequest	12.99
Combat Classics	22.99
Combat Classics 2	22.99
Commanche Max Overkill	CD ROM...29.99
Commanche Mission Disk 1	13.99
Contraptions	CD ROM . 24.99
Crazy Cars 3	CD ROM . 12.99
Cruise for A Corpse	3.5" OR CD ROM...12.99
Cyberworlds	3.5" or CD ROM...17.99
Daemonsgate	22.99
Dangerous Streets	17.99
Darkmere	25.99
Dark Sun Shattered Lands	28.99
Dark Sun Shattered Lands	CD-ROM ..29.99
DAY OF THE TENTACLE	27.99
Day of the Tentacle	CD-ROM ..29.99
Delta V	26.99
Diggers	3.5" or CD ROM...25.99
Dizzy Collection	19.99
DOOM	25.99
Dracula	19.99
Dragonsphere	CD ROM...27.99
Dreamweb	26.99
Dune II	23.99
Dungeon Master 2	26.99
Dynablasters	23.99
ELDER SCROLLS (THE ARENA)	27.99
ELITE 2 (FRONTIER)	26.99
Elite 2 Frontier	CD ROM...28.99
ENCARTA	CD ROM...69.99
European Champions	19.99
Evasive Action	22.99
EXCELLENT GAMES (COMPILATION)	26.99
Eye Of The Beholder	12.99
Eye Of The Beholder 1	CD ROM...12.99
Eye of The Storm	22.99
F1	19.99
F14 Fleet Defender	27.99
F14 Tomcat	CD ROM . 12.99
F15 Strike Eagle 2	CD ROM...12.99
F15 Strike Eagle 3	CD ROM...29.99
F19 Stealth Fighter	CD ROM...12.99
F117A Stealthfighter/F15 Strike Eagle 2	CD ROM...29.99
FA Premier League Football	19.99
Falcon 3 F/A-18 Hornet	16.99
Falcon 3 (DOS 5.0)	28.99
Falcon 3.0 (MIG-29 Deadly Adversary)	16.99
Fantastic Worlds	26.99
Fantasy Empires	26.99
Fields of Glory	27.99
Fine Art (Windows)	29.99
Flight Sim Toolkit	3.5"/CD ROM...29.99
Flight Simulator 5	29.99
Flight Sim 5 Air Traffic Controller	10.99
Flight Sim 5 Flight Adventure 825	19.99
Flight Sim 5 New York	13.99
Flight Sim 5 Paris	13.99
Flight Sim 5 Praxim	19.99
Flight Sim 5 Real Weather Pilot	17.99
Flight Sim 5 San Francisco	19.99
Flight Sim 5 Washington	19.99
Flight Sim 5 West USA Scenery	29.99
Forgotten Castle	27.99
FORMULA ONE GRAND PRIX	27.99
Formula One Gran Prix 2	27.99
Front Page Sports Football Pro Edition	26.99
Gabriel Kinght	26-.99
Gabriel Knight	CD ROM...27.99
Genesia	22.99
GOAL	22.99
GOLDEN 7 (COMPILATION)	CD ROM...29.99
Grandest Fleet	27.99
Great Naval Battles	CD ROM...26.99
Great Naval Battles (Super Ships)	12.99
Great Naval Battles Scenario Builder	13.99
Great Naval Battles 2	3.5"/CD ROM...26.99
Gunship/Crazy Cars 3	CD ROM.. 19.99
Gunship 2000	26.99
Gunship 2000 Data Disk	17.99
Hand Of Fate - Legend of Kyrandia.	CD ROM...29.99
Hanna Barbera Cartoon Animator	29.99
Hannibal	22.99
Hardball 3	10.99
Harpoon 1	12.99
Harpoon II	27.99
Heimdall 2	3.5" OR CD ROM...26.99
Heirs To The Throne	27.99
Hill Street Blues	CD ROM...12.99
Hired Guns	27.99
History Line (1914-1918)	26.99
History Line	CD-ROM ..29.99
Hound of The Baskervilles	CD ROM . 12.99
Indy Atlantis Adventure	24.99
INDY CAR RACING	27.99
Indy Jones Fate of Atlantis Adventure	CD-ROM 27.99
In Extremis	24.99
Innocent Until Caught	25.99
International Manager World Cup Edition	19.99
International Open Golf Champ	19.99
Iron Helix	CD ROM...26.99
J.Nicklaus Unlimited Golf + Course Design	CD ROM.....12.99
Jack The Ripper	3.5" or CD ROM ..27.99
Jonny Quest	19.99
Jones In The Fast Lane	CD ROM...25.99
Jurassic Park	22.99
Jurassic Park	CD ROM...27.99
Jutland	CD ROM...39.99
Kasporovs Gambit	27.99
Kingmaker	25.99
Kings Quest 6	3.5" or CD ROM...29.99
Knights of The Sky	12.99
Lamborghini	19.99
Lands of Lore	26.99
Lands of Lore	CD ROM...27.99
Laser Squad (Enhanced)	CD ROM...12.99
Legend of Kyrandia 2	22.99
Leisure Suit Larry	CD ROM...12.99
Leisure Suit Larry 2	12.99
Leisure Suit Larry 6	27.99
Lemmings 1 & Oh No Not More Lemmings CD-ROM	27.99
Lemmings 2	CD ROM...20.99
Lemmings Double Pack	27.99
LINKS 386 PRO (SVGA)	29.99
Links Banff Springs (SVGA)	16.99
Links Barton Creek (VGA)	15.99
Links Bayhill (VGA)	15.99
Links Bountiful (VGA)	15.99
LINKS CASTLE PINES (SVGA)	16.99
Links Collectors CD	CD ROM...29.99
Links The Challenge of Golf.	3.5" or CD ROM...12.99
LINKS FANTASY COURSE (SVGA)	16.99
Links Firestone (SVGA)	16.99
Links Hyatt Dorado(VGA)	15.99
Links Innisbrook (SVGA)	16.99
Links Mauna Kea (SVGA)	16.99
Links Pebble Beach (SVGA)	16.99
Links Pinehurst (SVGA)	£16.99
Links The Belfry (SVGA)	16.99
Links Troon North (VGA)	15.99
Link Worlds	3.5" OR CD ROM...22.99
LORDS OF POWER - (COMPILATION)	29.99
Lord of The Rings	CD-ROM.. 27.99
Lost Files Of Sherlock Holmes	CD ROM...32.99
Lotus The Challenge	22.99
M1 Tank Platoon	CD ROM...12.99
Mad Dog McCree	CD ROM ..29.99
Manchester United Premier League Champions	19.99
Masters of Orion	27.99
Mavis Beacon II	22.99
Megarace	CD ROM...26.99
Merchant Prince	27.99
MICROCOSM	CD-ROM.. 32.99
Micro Machines	19.99
Microsoft Multimedia Beethoven	CD ROM...29.99
Microsoft Musical Instruments	CD ROM...29.99
Monopoly	22.99
Moonstone	20.99
Morph	19.99
MORTAL KOMBAT	22.99
MYST	CD ROM...34.99
Nick Faldos Championship Golf	19.99
Nick Faldos Championship Golf	CD ROM...26.99
NFL Football	25.99
NFL Pro League Football	3.5" OR CD ROM...26.99
NHL Hockey	27.99
Nicky 2	19.99
Nippon Safes	22.99
Omar Sharifs Bridge	24.99
Oregamo	27.99
Oscar	3.5" or CD ROM...19.99
PACIFIC STRIKE	29.99
Pacific Strike Speech Accessory	13.99
Patriot	CD ROM...27.99
Perfect General 2	27.99
Perfect General Trilogy	27.99
PGA Tour Golf 2	27.99
Pinball Dreams	22.99
PINBALL DREAMS	CD ROM...25.99
PINBALL DREAMS 2 DATA DISK	13.99
PINBALL DREAMS DELUXE	CD ROM...25.99
PINBALL FANTASIES	24.99
Pinball Magic	7.99
Pinball Windows	22.99
Pirates	CD ROM...12.99
Pirates Gold	22.99
Polic e Quest1	3.5" or CD ROM...12.99
Police Quest 2	12.99
Police Quest IV	CD ROM...27.99
Populous & Promised Lands	10.99
Powergame 2	24.99
Powermonger	11.99
Power Tactics	22.99
Prehistoric 2	20.99
PREMIER MANAGER 2	22.99
Prince of Persia 1	10.99
Prince of Persia II	25.99
PRINT SHOP DELUXE	34.99
Privateer	29.99
Privateer Special Operations	13.99
Privateer Speech Accessory Pack	13.99
Protostar	CD-ROM ..26.99
Quarterpole (Horse Racing)	19.99
Quantum Gate	29.99
Quest For Glory 2	13.99
Quest & Fun	CD ROM...19.99
Ragnarock	24.99
Rags To Riches	26.99
Railroad Tycoon	CD ROM...13.99
Railroad Tycoon Deluxe	26.99
Ravenloft	27.99
Reach Out For Gold	17.99
REBEL ASSAULT	CD ROM...29.99
Red Crystal	3.5" or CD ROM ..27.99
Return of The Phantom	CD ROM...29.99
Return To Zork	28.99
Return To Zork	CD-ROM ..32.99
Reunion	27.99
Rings Of Medusa Gold	19.99
Rise Of The Dragon	27.99
Rise of The Robots (VGA)	27.99
Rise of The Robots (SVGA)	29.99
Rise of The Robots	CD-ROM ..34.99
RYDER CUP	19.99
Ryder Cup	CD ROM ..26.99
Sabre Team	3.5" or CD ROM...19.99
SAM & MAX HIT THE ROAD	CD ROM...29.99
Scrabble	20.99
Seal Team	24.99
Secret Of Monkey Island 1	12.99
Secret of Monkey	CD-ROM.. 30.99
Secret Of Monkey Island 2	23.99
SENSIBLE SOCCER	21.99
SETTLERS	26.99
Shadow Caster	27.99
SHADOW CASTER	CD ROM...32.99
Shadow of The Comet	CD ROM...29.99
Shadoworlds	CD ROM...12.99
Sherlock Holmes	28.99
Sherlock Holmes 1	CD ROM...27.99
Sherlock Holmes 2 OR 3	32.99
Sherlock Holmes Cons Detective	32.99
Silent Service 2	12.99
Silent Service 2	CD ROM...13.99
Silverball	19.99
Simon The Sorcerer	26.99
Sim Ant	CD ROM...29.99
Sim City	CD ROM...29.99
SIM CITY 2000	26.99
Sim City Deluxe	22.99
Sim City/Lemmings	19.99
Sim City/Populous	19.99
Sim Life	27.99
SSN-21 Sea Wolf	29.99
SOCCER KID	19.99
Space Hulk	24.99
Space Hulk	CD ROM...32.99
Space Legends	22.99
Space Quest 1	CD ROM...12.99
Space Shuttle (Mindscape)	CD-ROM...27.99
Speed Ball 2	8.99
Speed Racer	26.99
Spellcasting Triple Pack	CD ROM...27.99
Sports Masters	22.99
Star Lord	27.99
Star Reach	26.99
Star Trek 25th	24.99
Star trek 25th Anniversary	CD-ROM...32.99
Star Trek 2 - Judgement Rites	26.99
STAR TREK STAR FLEET ACADEMY	29.99
Star Trek The Next Generation	CD ROM...27.99
Steel Thunder	10.99
Stone Keep	27.99
Streetfighter2	19.99
Strike Commander	26.99
Strike Commander	CD ROM ..32.99
Strike Commander (Speech Pack)	13.99
STRIKE COMMANDER TACTICAL OPS	13.99
Strike Squad	19.99
Stunt Island	29.99
S.U.B.	17.99
Sub War 2050	27.99
Super League Manager	19.99]
Surf Ninjas	17.99
SYNDICATE	26.99
SYNDICATE PLUS	CD ROM.. 32.99
Syndicate American Revolt Data Disk	13.99
Tactical Manager English/Italian Or Scottish	22.99
Tales of Magic	24.99
TIE FIGHTER	27.99
Tetris 7 Colours	16.99
T.F.X.	27.99
T.F.X.	CD ROM...29.99
The Animation Studio (Disney)	59.99
The Blue and The Grey	26.99
THE GREATEST	24.99
The Greatest	CD-ROM ..27.99
THE LAWNMOWER MAN	CD ROM...32.99
THE JOURNEY MAN PROJECT	CD ROM...26.99
The Labyrinth of Time	CD ROM ..29.99
THE SETTLERS	26.99
The Shadow Of Yserius	25.99
THEME PARK	29.99
Tony La Russa Baseball 2 (Enhanced)	CD ROM..29.99
TORNADO	26.99
Tornado	CD ROM...29.99
Tornado (Mission Builder)	17.99
Tornado (Operation Desert Storm)	13.99
Town With No Name	CD ROM.. 12.99
Traps "N" Treasures	19.99
Trivial Pursuit	10.99
Trolls	17.99
Turning Points	22.99
U.F.O. Enemy Unkown	3.5" or CD ROM...27.99
Ultima 6	12.99
Ultima 7 Complete	CD ROM...29.99
Ultima 7 (The Silver Seed)	13.99
Ultima 7 (The Black Gate)	26.99
Ultima 7 (The Serpent Isle)	25.99
ULTIM A 8 (PAGAN)	29.99
Ultima 8 (Pagan)	CDROM...34.99
Ultima 8 (Speech Accessory Pack)	13.99
Ultima Trilogy 2	26.49
Ultima Underworld	26.99
Ultima Underworld + Wing Cmndr 2	CD-ROM..26.99
Ultima Underworld 2	26.99
Ultima Underworld 1&2	CD-ROM ..29.99
UMS Compilation	3.5" or CD ROM..27.99
Unnecessary Roughness	26.99
V For Victory 3 (Market Garden)	27.99
Veil of Darkness	24.99
Virtual Worlds	29.99
Walls of Rome	CD ROM...12.99
WHO SHOT JOHNNY ROCK	CD ROM...29.99
Wing Commander	11.99
Wing Commander Academy	22.99
Wing Commander 2 +Speech Pack	26.99
Wing Commander 1 Secret Missions 1&2	16.99
Wing Commander II Special Ops 1	£9.99
Wing Commander II Special Ops 2	£9.99
Wings of Glory	29.99
Winter Olympics	3.5" CDROM...25.99
Winter Supersports	CD ROM.£19.99
WIZARD	26.99
WIZARDRY 5/6/7 COMPILATION	27.99
World war 2 Battles of South Pacific	27.99
Xmas Lemmings	13.99
X1TH HOUR - 7TH GUEST 2	49.99
X WING	27.99
X- Wing Imperial Pursuit Mission Disk	17.99
Zig Zag	27.99

EDUCATIONAL

A Christmas Carol (+8)	13.99
ADI English (11-12) or (12-13) or (13-14)	17.99
ADI GCSE Maths Or English Or French	22.99
ADI Maths (11-12) or (12-13) or (13-14)	17.99
ADI French (11-12) or (12-13) or (13-14)	17.99
Animal Alphabet	CD ROM ...27.99
Better Maths (12-16)	13.99
Better Spelling (8+)	13.99
Biology (12-16)	13.99
Cave Maze (8-13 Years)	10.99
Chemistry (12-16)	13.99
Dr. T's Sing A-Long (Karaoke For Kids) 4-10	9.99
Dinosaur Adventure	CD ROM ...19.99
Fatty Bears Birthday Surprise (4-7)	22.99
Fraction Goblins (8-13 Years)	10.99
Fun School 2 (6-8)	8.99
Fun School 2 (+8)	8.99
Fun School 2 (U6)	8.99
Fun School 4 (5-7)	16.99
Fun School 4 (7-11)	16.99
Fun School 4 (U5)	16.99
Junior Typist (4-10)	13.99
Magic Maths (4-8)	13.99
Mario Teaches Touch Typing	19.99
Maths Dragons (5-12 Years)	10.99
Merlin's Maths(5-13)	17.99
Mickey's 123's (2-5)	13.99
Mickey's ABC's (2-5)	13.99
Mickey's Colours & Shapes (2-5)2	13.99
Mickey's Jigsaw Puzzles (5+)	13.99
Mickey's Memory Challenge (5+)	13.99
Mixed up fairy tales	22.99
Noddy's Big Adventure (3-7)	19.99
Noddy's Big Adventure (3-7) Windows	22.99
Noddy's Playtime (3-7)	16.99
Paint & Create (5+)	17.99
Physics (12-16)	13.99
Picture Fractions (7-10 Years)	10.99
PlayRoom (3-8)	17.99
Play School (3-8)	13.99
Reasoning With Trolls (5-12Years)	10.99
Robin Hood (8+)	13.99
Spelling Fair (7-12)	20.99
Story Book Weaver	17.99
The Three Bears (5-10)	13.99
The Wind in The Willows	13.99
The Wizard Of Oz(+6)	13.99
Tidy The House	10.99

CYRIX CPU UPGRADE CHIPS

386DX 16Mhz to 486DX 32Mhz	219.99
386DX 20Mhz to 486DX 40Mhz	259.99
386DX 25Mhz to 486DX 50Mhz	289.99
386DX 16Mhz to 486SX 32Mhz	199.99
386DX 20Mhz to 486SX 40Mhz	199.99
386DX 25Mhz to 486SX 32Mhz	219.99

SPECIAL OFFERS

Alone In The Dark	16.99
Alone In The Dark + Jack In The Dark	CD ROM 16.99
Batman Returns	16.99
Blues Brothers	8.99
Chessmaster 3000	14.99
Chessmaster 3000	CD ROM 22.99
Commanche Maximum Overkill	8.99
Crazy Cars 3	12.99
F15 Strike Eagle 3	16.99
Football Manager 2	8.99
Flashback	19.99
Harrier Jump Jet	16.99
Jack Nicklaus unlimited Golf	12.99
Jack Nicklaus Courses (Pebble Beach etc)	7.99
Jack Nicklaus Courses (St Andrews etc)	7.99
Kings Quest 5	12.99
Laser Squad	9.99
Lemmings 2 The Tribes	19.99
Microprose Golf (D Ledbetters)	16.99
Mavis Beacon (DOS ONLY)	16.99
Shadowlands	8.99
Vikings	9.99
World Class Rugby (Five Nations)	9.99
Wing Commander(OEM)	9.99
Trolls	9.99
Zool	9.99s

JOYSTICKS & ACCESSORIES

3 Button Serial Mouse	9.99
Action Replay Pro	59.99
Disk Box (10 Capacity)	2.99
Disk Box (40 Capacity)	4.99
Disk Box (50 Capacity)	5.99
Disk Box (80 Capacity)	6.99
Disk Box (100 Capacity)	7.99
Freeflight Joystick	27.99
Freewheel Analog Steering Wheel	27.99
Freewheel Analog Throttle	15.99
Gravis Analog Joystick	34.99
Gravis Analog Pro	39.99
Gravis Dual Eliminator PC Game Port	24.99
Gravis Ultra Sound 16 Bit Card	139.99
Mousemat	4.99
Manhattan Coated Glass 14" Monitor Filter	14.99
Manhattan Glass 14" Monitor Filter	12.99
Manhattan Nylon 14" Monitor Filter	9.99
Quickjoy Mo SV202	11.99
Quickjoy Topstar SV227	19.99
Saitek Megagrip III MX230 Analog	12.99
Saitek Megastick III MX130 Digital	8.99
Soundblaster 16	164.99
Soundblaster 16 Basic	139.99
Soundblaster 16 Multicd	174.99
Soundblaster 16 SCSI-2 ASP	239.99
Soundblaster Multi CD ASP	209.99
Soundblaster Pro 16 ASP	199.99
Soundblaster Pro Delux	99.99
Soundblaster Pro Delux Basic	74.99
Soundblaster Pro Plus	139.99
Soundblaster V2.0 Delux	64.99
Suncom Analog Edge	16.99
Suncom Analog Extra	19.99
Suncom Command Control Pad	19.99
Suncom Flitemax	27.99
Suncom Game Port 2000 Dual Port Card	16.99
Suncom GForce Yoke	49.99
Suncom FX2000 (Left & Right Handed)	19.99
Technoplus Hawk Junior (Digital)	9.99
Technoplus Hawk Plus (Analog)	11.99
The Sound Source	22.99

3.5" BLANK DISKS

	TDK/VERBATIM (BOXED)		PRECISION (BOXED)		UNBRANDED (LOOSE)	
	LOW	HIGH	LOW	HIGH	LOW	HIGH
10 x	7.99	9.99	6.49	7.99	5.99	6.99
20 x	14.50	19.50	11.99	15.50	10.99	13.50
50 x	35.00	47.50	26.00	37.50	23.99	32.50
100 x	65.00	95.00	49.99	72.99	44.99	62.99
200 x	125.00	190.00	94.99	141.99	83.99	121.99
500 x	300.00	470.00	219.99	350.00	199.99	287.50
1000 x	580.00	930.00	419.99	680.00	369.99	550.00

RECYCLED BLANK DS/DD (LOW)

10x	4.50	50x	17.50	90x	31.50
20x	8.50	60x	21.00	100x	35.00
30x	12.00	70x	24.50		
40x	15.00	80x	28.00		

Back Issues

If you're missing any of PC Review's previous editions, you can order them from PC Review, Back Issues Dept, Tower Publishing, Tower House, Sovereign Park, Laphkill St, Market Harborough, Leics, LE16 9EF.

Issues 1-11 inclusive cost £3.95 each; Issues 12-31 cost £4.95 each. If you're ordering from outside the UK, the price is £5.95 per issue. Please make your payment by cheque or credit card – don't send cash through the post.

Issue 1, December 1991 SOLD OUT
3.5" disk edition sold out

Issue 2, December 1991 SOLD OUT

Issue 3, January 1992
PC buyer's guide;
Monkey Island 2.
5.25" disk edition sold out

Issue 4, February 1992 SOLD OUT

Issue 5, March 1992 SOLD OUT

Issue 6, April 1992
Windows, chess programs, Star Trek.
3.5" disk edition sold out

Issue 7, May 1992
Flight sims, Another World.
5.25" disk edition sold out

Issue 8, June 1992
Ultima Underworld, tips supplement.
3.5" disk edition sold out

Issue 9, July 1992
Head to head games, Ultima VII..
3.5" disk edition sold out

Issue 10, August 1992
Music on the PC, Sid Meier.
3.5" disk edition sold out

Issue 11, September 1992
Indiana Jones IV, Jimmy White.
3.5" disk edition sold out

Issue 12, October 1992
30 best RPGs, printers, Elite II; A-Train.
3.5" disk edition sold out

Issue 13, November 1992
Golf games, Sound cards. On disk: KGB.

Issue 14, December 1992 SOLD OUT

Issue 15, January 1993 SOLD OUT

Issue 16, February 1993
Adventures. On disk: Mandelbrot Magic.
3.5" disk edition sold out

Issue 17, March 1993
Racing games. On disk: Tornado.
3.5" disk edition sold out

Issue 18, April 1993
PC innovations; MS-DOS 6; UU2.

Issue 19, May 1993
Flight Sim 4, X-Wing, Lemmings 2. On disk: Print Shop Deluxe.
5.25" disk edition sold out

Issue 20, June 1993 SOLD OUT

Issue 21, July 1993
Syndicate, Prince of Persia 2.
5.25" disk edition sold out

Issue 22, August 1993
War games; Sensi, Flashback.
On disk: Ambush at Sorinor.
3.5" disk edition sold out

Issue 23, September 1993
Flight sims; Tentacle, Fields of Glory.
3.5" disk edition sold out

Issue 24, October 1993
Take your PC apart, Simon the Sorcerer, Dune CD. On disk: Body Blows.

Issue 25, November 1993
Top 100 games 1993; TFX, Jurassic Park, Streetfighter 2.
On disk: Starlord, Ancients.

Issue 26, December 1993
486 PCs buyers' guide, Elite 2, Return to Zork reviewed.
TWO HIGH DENSITY DISKS: Snapgrafx, Global Domination.

Issue 27, January 1994
Tomorrow's PCs; IndyCar Racing, Steel Sky, Rebel Assault reviewed. HIGH DENSITY DISK: Alone in the Dark 2.

Issue 28, February 1994
Making music on the PC; Alone In The Dark 2, Larry 6 reviewed.
TWO HIGH DENSITY DISKS: Doom, Cakewalk.

Issue 29, March 1994
Sound cards buyers' guide; Gabriel Knight, Doom, SimCity 2000 reviewed. HIGH DENSITY DISK:Cardshop Plus.

Issue 30, April 1994
That's edutainment! Windows 3.11; UFO, BloodNet, Lawnmower Man reviewed.
HIGH DENSITY DISK: SimCity 2000.

Issue 31, May 1994
FREE CD-ROM with Star Trek 25th Anniversary, Battle Isle 2, Rebel Assault demos, latest version of Doom – over 500Mb of programs in all!
PLUS HIGH DENSITY DISK with Top Draw graphics package.
EXCLUSIVE: the VFX1 Virtual reality head-set. Ultima 8, Megarace, Microcosm reviewed.
New product and technical help sections.

PC REVIEW BACK ISSUES

Please send me the following back issue(s) of PC Review:

.....(write the issue number(s) here)

with 5.25" ❑ 3.5" ❑ cover disk

I enclose a cheque ❑ postal order ❑ made payable to EMAP Images for £.....

(UK rates: £3.95 per magazine Issues 1-11, £4.95 per magazine Issues 12-31; overseas rates: £5.95 per magazine — all issues)

My Mastercard ❑ Visa ❑ Amex ❑ Diners Club ❑ card number is .....

Expiry date.....

Name.....

Address .....

.....

.....

Send this coupon and payment (if applicable) to: PC Review, Back Issues Department, Tower Publishing, Tower House, Sovereign Park, Laphkill St, Market Harborough, Leics, LE16 9EF

yawn!

The **PC** is the most **powerful** games machine in the known **universe** (probably), and is home to some of the most **exciting** and **innovative** entertainment software ever **created.**

So why are **many** PC games magazines so blimmin' ***dull,*** then?

We don't know, but rest assured that **PC GAMES** will be a touch ***different*** to the rest of the run-of-the-mill **crowd.**

Inside **PC GAMES'** 132 throbbing pages, you'll find totally **authoritative reviews** of all the latest games, **in-depth previews** of tomorrow's hits and **copious tips and playguides** for the games you're playing now, as well as a bundle of **entertaining and informative** features.

Oh, and you'll find something else — a sense of **humour.** You see, although we at **PC GAMES** take our games-playing very seriously, we don't take *ourselves* very seriously.

Phweep! Ka-zing! Wibble!

See what we mean?

PC GAMES

It won't send you **to sleep.**

DISKS!

PCGAMES

DISK 1 Tested for ALL known viruses!

Requires 256-colour VGA, 2Mb of RAM and DOS 5.0; 486 PC and joystick recommended

EXCLUSIVE!

TIE Fighter

Feel the *power* of the Dark Side of the Force in this fully-playable complete mission from LucasArts' eagerly-awaited sequel to X-Wing!

PCGAMES

DISK 2 Tested for ALL known viruses!

Requires mouse, 256-colour VGA, and DOS 5.0; 386 PC recommended

EXCLUSIVE!

Heimdall 2

Play this slice of Core Design's fab arcade adventure and ***WIN*** a multi-media 486 PC worth over £1500!

The Settlers

Is Blue Byte's latest the cutest God game ever? Find out for yourself in this fully-playable demo!

Not content with creating the finest games mag ever, we've also bolted two high-density disks onto the cover bearing three of the finest demos EVER!

- Fly for the Empire in a complete playable mission from LucasArts' fab TIE FIGHTER, stunning Star Wars sequel to the classic X-Wing!
- Find the Ro'Geld of Midgard in our fully-playable HEIMDALL 2 demo, and you could WIN a multimedia 486 PC worth over £1500!
- Discover what happens if you cross-breed the Lemmings with Sim City in our playable demo of THE SETTLERS!

WHAT YOU'LL FIND IN **THE FIRST ISSUE OF PC GAMES!**

- A whole bundle of **EXCLUSIVES**, including top-secret, hush-hush, mum's-the-word previews of BioForge from Origin, Desert Strike from Gremlin and Battledrome from Dynamix!
- Over 40 — yes, FORTY! — hot games reviewed, including the FIRST review of Origin's Pacific Strike!
- Complete solutions of Gabriel Knight and Police Quest: Open Season, plus comprehensive playguides for Litil Divil and Sim City 2000!
- Loads of other really good stuff!
- And more besides!

First issue on-sale now! Price 'only' £3.95.

GET SWIT

GET A FREE V

MORTAL KOMBAT

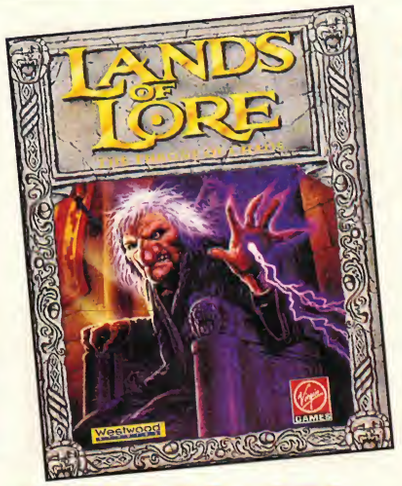
"Probably the best beat 'em up available on PC right now." Cal Jones. March 1994.

- Requires: 386 minimum + VGA graphic card + 4MB RAM + keyboard / joystick.

HAND OF FATE : LEGEND OF KYRANDIA 2

"I'd recommend it to almost anyone." Cal Jones. March 1994. 8/10

- Requires 386 minimum + VGA graphic card + 2 MB RAM + Microsoft compatible mouse.



LANDS OF LORE - THE THRONE OF CHAOS CD

Your quest is to find the truth stone and defeat the evil hag in this superb fantasy, role playing adventure.

- Requires : 386 minimum + VGA graphic card + 640 K memory + keyboard / mouse

INDYCAR RACING

"...**the** racing game to buy. It's tough, looks great, sounds good, plays brilliantly." John Bennett. January 1994. 9/10

- Requires : 346 minimum (486 recommended) + VGA graphic card + 2 MB RAM + joystick / keyboard.

Every month PC Review delivers the very best in PC entertainment: exclusive interactive demos, up-to-the-minute news and previews of the products which are leading the PC leisure market, and the most authoritative reviews in the business.

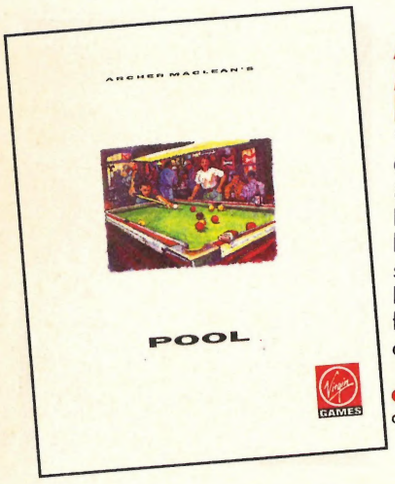
Ensure that you never miss out on a copy of PC Review by taking advantage of this fantastic subscription offer brought to you in conjunction with Virgin Interactive Entertainment.

SUBSCRIBE TO PC REVIEW NOW AND GET:

- The choice of one of these full-priced Virgin games absolutely FREE! (Worth up to £44.99!)
- Your priority copy of PC Review - guaranteed each month!
- The convenience of having your personal copy of PC Review dispatched straight to your door at no extra cost and days before it's available in the shops!

TCHED ON

VIRGIN GAME!



ARCHER MACLEAN'S POOL

" A cracking good game."
Christina Erskine. November 1993.
8/10

Experience real-life pool on your home computer with this unrivalled simulation.

Practise on your own, play with a friend or choose from 20 individual computer-controlled opponents.

● Requires : 386 minimum + VGA graphic card + 1 MB RAM + mouse.

TO ORDER SIMPLY COMPLETE THE FORM BELOW, ENCLOSE PAYMENT IF APPLICABLE, AND SEND TO: TOWER PUBLISHING, TOWER HOUSE, LATHKILL ST, MARKET HARBOROUGH, LEICS. LE16 9EF. ALTERNATIVELY CALL OUR CREDIT CARD HOTLINE ON 0858 468888. QUOTING APPROPRIATE SOURCE CODE AND OFFER CODE.

PC REVIEW SUBSCRIPTION ORDER FORM

PLEASE ENTER MY SUBSCRIPTION TO PC REVIEW:

• £47.40 U.K / BFPO • £50.00 SURFACE ROW. • £55.00 EUROPE / EIRE AIRMAIL • £64.00 ROW ZONE 1 AIRMAIL • £75.00 ROW ZONE 2 AIRMAIL

METHOD OF PAYMENT (Please tick):

❑ Cheque / Postal Order / International Money Order made payable to EMAP IMAGES LTD.

❑ Access / Visa ..... expiry date / (Mastercard, Diners Club, Amex, American Express also accepted)

Name .....

Address .....

.....

.....

Postcode .....Tel .....

Choice of free game (tick one box only) Free game only available to U.K residents:

	3.5"
❑ Indycar Racing	offer code C1A
❑ Hand of Fate	offer code C1B
❑ Archer Maclean's Pool	offer code C1C
❑ Mortal Kombat	offer code C1D
❑ Lands of Lore CD	offer code C1E

Send this form to : Tower Publishing, Tower House, Sovereign Park, Lathkill St, Market Harborough, LE16 9EF.

Please allow 28 days from receipt of order for fulfilment. Your subscription should start from the next available issue unless otherwise specified. Free software subject to availability. In the unlikely event that your free game should become unavailable we reserve the right to offer an alternative game.

❑ Tick here if you do not wish to receive any direct mail that EMAP Images Ltd. feels may be of interest to you.

OFFER ENDS 15TH JUNE 1994 SOURCE CODE : 3.5" - IC1G

PC review

Virgin INTERACTIVE entertainment

Next Month

HELP

If you're thinking of buying a new PC, DON'T ... until you've read our article. We'll be looking at an oft-neglected area of PC buying — the after-sales service. Which companies offer the most comprehensive service? Which software companies have the best technical support lines? Which games publishers have the most hints and tips? And how can you safeguard your purchase so that you can buy without worry? All will be revealed next month.

The great multimedia scandal

Taking a database, slapping it on a CD and adding a few pretty pictures is hardly a stunning use of 'multimedia'. Chucking a few digitised cut-scenes into a game barely qualifies it to be described as a 'multimedia experience'. So why do publishers insist on cutting corners and misusing the available technology? John Bennett reports.

The PC Review profile

Cryo is one of the hottest names in PC development at the moment. With KGB, Dune and now Megarace under its belt, the team is currently working on leading edge games for Mindscape. Cal Jones visits Cryo's offices in Paris to get the story so far.

PLUS

* The latest printers: high quality, high speed, low noise printing at an affordable price
* Microsoft's latest CD-ROM software
* Tips and tricks for DOS and Windows in our Technical help section

Games

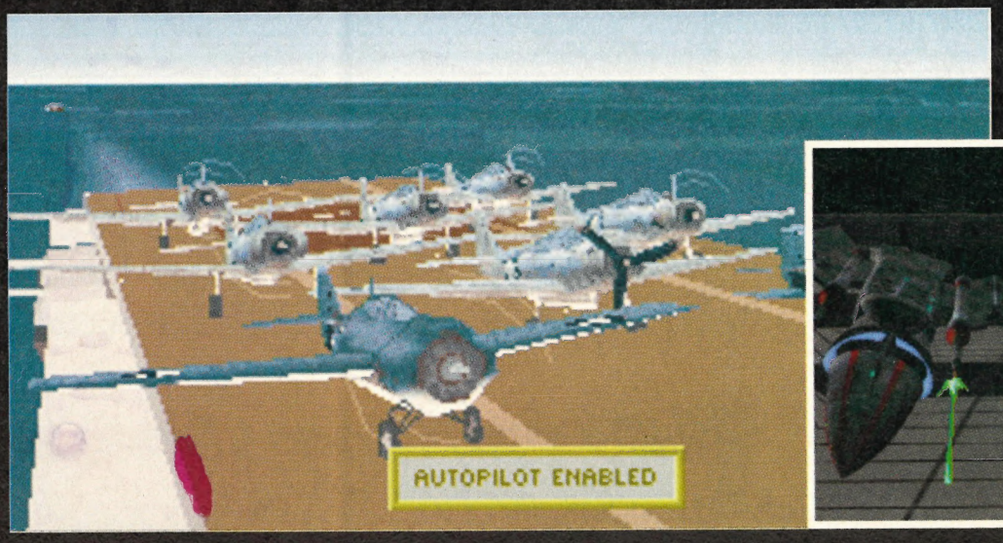
Delta V, Pacific Strike, and Pacific Air War, are all lined up at the starting blocks, plus Robinson's Requiem, a game of survival against the odds.

* Tips for BloodNet and Myst
* More of your SimCity towns

AND

Another great free cover gift!

PC Review July 1994. In the shops on June 15th.
Place an order with your newsagent now, or you may miss out



NB Contents may be subject to change

BATTLE ISLE 2

PC Review: 8
PC Gamer: 93 %
PC Zone: 91 %
PC Format: 86 %

Enhanced map functions to help plan your missions.

Visual messages to keep you updated, as your troops advance.

Lifelike 3 D vector graphics for brilliant game play.

Animated ray traced Units in astonishing detail.

Battle Isle 2 is a huge, futuristic wargame. It has one of the most highly developed artificial intelligences in any simulation, ever, and also incorporates many new programming techniques and gameplay elements. This creates a far more coherent and complete game than ever imaginable before, with a developing plot and a huge amount of depth.

Titan-Net has gathered its forces in a renewed attempt to deliver a decisive blow against the Drullian civilisation. The armies of both sides are assembled, and the steel phalanxes face each other. The final conflict is about to begin - and this time only one victor will emerge!

- ☆ **Up to 400 units displayed simultaniously on screen.**
- ☆ **55 new tanks, ships and planes - all different!**
- ☆ **Detailed 3D display of all units (ray-traced and vector graphics), as well as 2D icons.**
- ☆ **Animated background story to guide you through the game.**
- ☆ **Construct roads and railways in thousands of terrain modules.**
- ☆ **Weather simulation.**
- ☆ **Realistic attack mode incorporating highspeed vector graphics.**
- ☆ **Up to 7 players.**

Available on PC CD-ROM and MS DOS PC, Amiga in Sept.

Nearly every suggestion from owners of the previous games, including the successful Battle Isle and History Line 1914-18, has been implemented in Battle Isle 2.

Blue Byte

Blue Byte Software GmbH
Eppinghofer Str. 150
45468 Mülheim an der Ruhr
Germany

KOMPART UK Ltd.
Fulling Mill Barn, Fulling Mill Lane
UK-AL6 9NP Welwyn, Herts.
Telephone 0438 / 84 00 04

The Multimedia Solution that can't be beaten!

WESTERN SYSTEMS

intel inside

£1199

FREE 486SX!! HOW?

This *outstanding offer* is made possible with this bundle of **25 CD Titles**. If bought separately the bundle would be valued at over £500. This, together with the headphones, joystick, high value stereo speakers and latest technology in CD-ROM and sound card makes it an outstanding offer. It really looks as if you are getting a 486SX-25 computer FREE.

Can this offer be beaten?

SELECTION OF 25 CD TITLES

REFERENCE AND EDUCATION

- Multimedia Encyclopedia
- World Atlas
- Space Shuttle
- 1993 Guinness Records
- Mavis Beacon Teaches Typing
- Adventures
- National Parks
- US Atlas

BUSINESS

- Microsoft Works (Multimedia eddition).
- Microsoft Multimedia Pack for Windows 3.1
- Macromedia Action!
- Clipmedia II SE

ENTERTAINMENT

- Star Trek 25th Anniversary
- Stellar 7
- Lord of the Rings
- King's Quest VI
- Battle Chess
- Mind Shadow
- Dragon Wars
- Wasteland
- Tass Times in Tonetown
- Out of this World
- The Bard's Tale
- Castles
- Chessmaster 3000.

PLUS 11 Audio floppy programs

AWARD WINNING 486SX-25

- 4Mb RAM - 128K cache
- 210Mb 13ms hard disk
- 1Mb LB graphics accelerator
- 14" SVGA NI MPRII monitor
- Double speed CD-ROM
- 16 bit stereo sound card
- Powerful 8 Watt stereo speakers
- Headphone with built in microphone
- Stand alone microphone with stand
- Precision joystick

HIGHER SPECIFICATIONS

Call for Details

Total Multimedia System

Products may vary in appearance from photo

To order: Contact your nearest regional sales office on one of the numbers below.

LONDON (Head Office)	BIRMINGHAM	LEEDS	GLASGOW
TEL: 081 845 8383	TEL: 021 200 3070	TEL: 0532 343663	TEL: 041 353 3533

All prices exclusive of VAT and delivery. All sales subject to Western Systems (Europe) Limited Terms and Conditions, available on application. All Trade Marks recognised.